November 26, 2014 Project No.: 073-6009-100

Paul Gotthold
USEPA - Region 3
Office of Pennsylvania Remediation Staff
1650 Arch Street - 3LC30
Philadelphia, PA 19103-2029

RE: RISK-BASED PCB CLEANUP PLAN
REVISED CLEANUP PLAN ADDENDUM – SOUTH PLANT (PAD004342556)
TRINITY INDUSTRIES, INC – HEMPFIELD TOWNSHIP, PA

Dear Mr. Gotthold:

As a follow up to our August 15 and 25, 2014 conference calls with you and Grant Dufficy and the resultant letters to you on August 15 and 29, 2014, Golder Associates Inc. (Golder) has prepared, on behalf of Trinity Industries, Inc. (Trinity), a Risk-Based PCB Cleanup Plan for the Trinity South Plant property (South Plant or Site) pursuant to provisions of the Toxic Substances Control Act (TSCA) §761.61(c). This Risk-Based PCB Cleanup Plan will be incorporated and implemented as an addendum to the overall Cleanup Plan for the Site that was previously approved by the Pennsylvania Department of Environmental Protection (PADEP). Golder is providing this document to request formal approval for the final phase of the Risk-Based Approach.

The multi-phase Risk-Based PCB Cleanup Plan recognizes the special circumstances of the ongoing Resource Conservation and Recovery Act (RCRA) Corrective Action including the need to work inside buildings and avoid structurally compromising and impairing the potential return to service of existing manufacturing structures. The initial phase of the Risk-Based PCB Cleanup Plan, dated August 15, 2014, was by design limited in scope and addressed only off-Site disposal of previously excavated PCB impacted soil. This phase was approved by the USEPA in a letter dated August 20, 2014. The somewhat broader second phase of the Risk-Based PCB Cleanup Plan, dated August 29, 2014, addressed additional PCB delineation and on- and off-Site waste disposal options. This phase was approved by USEPA in an email dated August 29, 2014 and a letter dated September 5, 2014.

This document incorporates a summary of those first and second phase activities and provides the following details for the third and final phase of the Risk-Based PCB Cleanup Plan:

- The development of risk-based PCB cleanup levels in soils for non-residential uses.
- The selection of response actions to remediate soils exceeding those cleanup levels, including further excavation and disposal of soils, the potential construction of a cap in areas where PCB impacted materials cannot be removed to risk-based non-residential standards, and a commitment to restrict future uses, where necessary, through a formal legal process.
- Documentation and reporting of results from the implementation of the Risk-Based PCB Cleanup Plan.

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Thank you for your help and guidance in this matter. We look forward to your approval of this phase of the Risk-Based PCB Cleanup Plan and to the successful completion of the South Plant Corrective Action/cleanup activities.

If you have any questions or comments regarding the above, please do not hesitate to us.

Regards,

GOLDER ASSOCIATES INC.

Joseph B. Gormley, Jr., PE
Senior Consultant, Project Coordinator

Mark Haney
Associate, Project Director

cc: Terry Barrett, P.G., Trinity Industries, Inc. (Electronic Copy)
Grant Dufficy, USEPA (Electronic Copy)
John O'Hara, DEP (Electronic Copy)

JBG/MH/bjb

RISK-BASED PCB CLEANUP PLAN – SOUTH PLANT SITE

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Hempfield Township, Pennsylvania

Submitted To: USEPA Region 3
RCRA Corrective Action
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2 Copies	Pennsylvania Department of Environmental Protection
1 Copy	Trinity Industries, Inc.

November 2014 **Project No.: 073-6009-100**

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Golder Associates

Table of Contents

List of Tables

List of Figures

List of Appendices

1.0 INTRODUCTION

As a follow-up to calls with Paul Gotthold and Grant Dufficy of the United States Environmental Protection Agency (USEPA) Region 3 Land and Chemicals Division on August 15 and 25, 2014 and the resultant letters to them on August 15 and 29, 2014, Golder Associates Inc. (Golder) has prepared, on behalf of Trinity Industries, Inc. (Trinity), a Risk-Based PCB Cleanup Plan for the Trinity South Plant property (South Plant or Site) pursuant to provisions of the Toxic Substances Control Act (TSCA) §761.61(c). This Risk-Based PCB Cleanup Plan will be incorporated and implemented as an addendum to the overall Cleanup Plan (Golder 2013) for the Site that was previously approved by the Pennsylvania Department of Environmental Protection (PADEP).

This Risk-Based PCB Cleanup Plan recognizes the special circumstances of the ongoing Resource Conservation and Recovery Act (RCRA) Corrective Action including the need to work inside buildings and avoid structurally compromising and impairing the potential return to service of existing manufacturing structures. The multi-phase Risk-Based PCB Cleanup Plan is technically implementable, appropriately addresses impacts posed by PCBs on-Site and, Golder believes, is approvable from a regulatory perspective.

The initial phase of the Risk-Based PCB Cleanup Plan, dated August 15, 2014 (Golder 2014a), was by design limited in scope and addressed only off-Site disposal of previously excavated PCB impacted soil. This phase was approved by the USEPA in a letter dated August 20, 2014 (USEPA 2014a).

The somewhat broader second phase of the Risk-Based PCB Cleanup Plan, dated August 29, 2014 (Golder 2014b), addressed additional PCB delineation and on- and off-Site waste disposal options. This phase was approved by USEPA in an email dated August 29, 2014 and a letter dated September 5, 2014 (USEPA 2014b).

This document incorporates a summary of those first and second phase activities and provides the following details for the third and final phase of the Risk-Based PCB Cleanup Plan:

- The development of risk-based PCB cleanup levels in soils for non-residential uses.
- The selection of response actions to remediate soils exceeding those cleanup levels, including further excavation and disposal of soils, the potential construction of a cap in areas where PCB impacted materials cannot be removed to risk-based non-residential standards, and a commitment to restrict future uses, where necessary, through a formal legal process.
- Documentation and reporting of results from the implementation of the Risk-Based PCB Cleanup Plan.

1.1 Site Background

The South Plant is an approximately 53-acre, industrial-zoned parcel located in a mixed use area of industrial, residential and undeveloped wooded properties located at 100 York Street in Hempfield Township, Mercer County, Pennsylvania (see Figure 1). The South Plant was previously owned by Chicago Bridge & Iron Company (CB&I). CB&I began operation at the South Plant in 1911 and manufactured large water tanks and other steel products until it ceased operations at the South Plant in July 1982. In July 1985, CB&I sold the property to MBM Realty Associates (MBM), who subsequently leased out space to several tenants for manufacturing, storage, and office space. In November 1988, Trinity purchased the South Plant and refurbished the facilities. They manufactured railcars at the Site from 1989 until operations ceased in 2000. Currently inactive, the Site includes 15 buildings and manufacturing support equipment, paved parking lots and roadways, rail lines, a solid waste landfill, and open, grassy areas. The Site is security fenced, and patrolled and maintained during the day by Trinity employees.

Trinity is currently performing cleanup activities at the South Plant in compliance with a Consent Order and Agreement (COA) with the Commonwealth of Pennsylvania (Pennsylvania 2006) under the Hazardous Site Cleanup Act (HSCA). The COA (Pennsylvania 2006) required Trinity to perform remedial investigations to identify the nature and extent of impacts to soil, groundwater, or surface water, if any, at and/or potentially migrating from the South Plant and to conduct PADEP approved Response Actions necessary to remediate any identified impacts to attain one or a combination of the Background, Statewide Health, and/or Site Specific cleanup standards under the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2).

1.1.1 Initial Site Characterization

Between 2007 and 2011, Trinity submitted various work plans, implemented a multi-phase Site-wide remedial investigation (RI) program that focused on identified areas of concern (AOCs) and known/suspected constituents of concern (COCs), and completed reports relative to investigation findings. All work plans and reports were reviewed and approved by PADEP. The investigation findings were documented in a Revised Remedial Investigation (RI) Report (Golder 2010). While considerable sampling for a variety of COCs, including PCBs, was performed at the Site during the RI, PCB analyses were limited to AOCs where PCBs were likely a COC, including former disposal areas, active and former transformer areas, former oil storage areas, and drainage areas from any of the above. PCB samples were not collected during the RI in former operating areas, including AOC-S3 (Former CB&I Pickling/Sandblasting/Painting Area), because it was not suspected until recently that PCBs may have been added to paints just prior to their application. Figure 2 shows RI soil/sediment sample locations with the locations that were sampled for PCBs shown in orange. Table 1-1 summarizes the PCB results from soil samples collected during the RI.

On March 19, 2012, Trinity reached agreement with USEPA Region 3 and PADEP to enter into the One Cleanup Plan program (USEPA 2012), which allows Pennsylvania facilities with Corrective Action obligations under RCRA to complete the requirements of federal Corrective Action and, concurrently, receive a liability release from Pennsylvania.

In February 2013, Golder submitted a Revised Cleanup Plan for the South Plant (Golder 2013) that presented the selected cleanup standards and proposed response actions/cleanup activities that PADEP subsequently approved on May 24, 2013 (PADEP 2013). The cleanup activities included excavation of volatile organic compound (VOC) impacted soils for off-Site disposal, excavation of metals impacted soils for on-Site consolidation in a former disposal area, and capping of the former disposal area.

1.1.2 Supplemental Waste Characterization and Excavation Delineation Sampling

Golder began Site cleanup activities under the PADEP approved Cleanup Plan in February 2014. As part of a pre-excavation sampling program to further refine existing knowledge of the lateral extent and depth of VOC and metals impacted soil for disposal purposes (see Figures 3 and 4), Golder identified PCBs in soils within a former operating area, with several samples exceeding 50 milligrams per kilogram (mg/kg) or parts per million (ppm) measured as total concentrations.

Based on this new finding and because the selected disposal facility for the VOC/metals impacted soil, Carbon-Limestone (Republic) Landfill in Lowellville, Ohio, confirmed that the facility could only accept soils with <50 ppm total PCBs, Golder performed additional sampling at varying depths to determine the extent of PCBs and facilitate the excavation and segregation of soils impacted with PCBs >50 ppm. The locations of those samples, which were collected from February 5, 2014 through April 11, 2014, are shown on Figure 5 with the results provided in Table 1-2. For segregation purposes, Golder designated the >50 ppm total PCB impacted area as IA-1E and the remaining VOC impacted area (potentially containing PCBs at concentrations <50 ppm) as IA-1F.

1.1.3 IA-1E Soils

In May 2014, Golder pre-conditioned the IA-1E soil in situ with EnviroBlend® in accordance with the PADEP approved Revised Cleanup Plan (Golder 2013), excavated those soils, and placed them in a segregated stockpile pending results of Toxicity Characteristic Leaching Procedure (TCLP) testing and acceptance for off-Site disposal at a Toxic Substances Control Act (TSCA) approved disposal facility. This stockpile (approximately 75 tons), which was located under roof within the confines of the former operations areas, was placed on an HDPE liner, and covered with plastic (see Figure 6 and Appendix A). The post-confirmation results for the IA-1E excavation are shown in Table 1-3.

1.1.4 IA-1F Soils

Understanding that the Carbon-Limestone Landfill could accept impacted soils containing <50 ppm PCBs, Golder continued to pre-condition the top two feet of soil and excavate the VOC/Metals impacted soils in IA-1F. Concurrently, other soils in IA-1F that did not require pre-conditioning were also excavated. The pre-conditioned and un-conditioned soils were placed in two other segregated stockpiles pending results of TCLP testing and acceptance for off-Site disposal at the landfill. Those stockpiles, which were also located within the confines of the former operations areas, were placed on HDPE liners (see Figure 6). The pre-conditioned soils were covered with plastic. Because the un-conditioned soils were saturated with groundwater, they were placed under roof but left uncovered to dry out. No leachate was generated during this air drying process.

The PCB results for those two separate stockpiles are shown in Table 1-4. As noted in the table, the results are a combination of composite samples taken for waste characterization purposes and grab samples taken from various locations and depths for delineation purposes prior to excavation and stockpiling. The results from both the in situ grab and the composite stockpile samples demonstrated that the stockpiled soils had total PCB concentrations <50 ppm.

After disposal facility acceptance of the waste profile for the un-conditioned VOC soils, Golder began to transport these soils to the Carbon-Limestone Landfill. Approximately 300 tons of un-conditioned soil was taken from that stockpile and disposed at the landfill during the first week of June 2014.

1.2 Regulatory Review Summary

During the remedial investigation of the South Plant, PCB results were compared to the Pennsylvania Statewide Health Standards to determine if there were impacts. Specifically, the individual Aroclor results were compared to their respective Non-Residential Direct Contact Medium Specific Concentrations (MSCs) and Non-Residential Soil-to-Groundwater MSCs for Used Aquifers with total dissolved solids concentrations less than 2,500 mg/l found at Title 25, Chapter 250 Appendix A. Based on these comparisons, no PCB impacts were identified in the RI Report (Golder 2010), and therefore, no PCB response actions were proposed in the Revised Cleanup Plan (Golder 2013).

During the subsequent pre-excavation sampling program summarized in Section 1.1.2, Golder identified PCBs in soils within AOC-S3 above the Aroclor specific MSCs and planned to handle them in accordance with the following approved response actions for soils with VOC and SVOC impacts:

- Pre-condition the soils, as necessary
- Excavate soils over action levels based on MSCs
- Characterize the stockpiled soils for acceptance at an appropriately permitted off-Site disposal facility

- Transport the soils to the off-Site disposal facility

Because some of the soil results also exceeded 50 ppm total PCBs and the identified RCRA Subtitle D disposal facility could only accept soils with less than 50 ppm total PCBs, Golder performed additional sampling at varying depths to determine the extent of PCBs and facilitate the excavation and segregation of soils impacted with PCBs greater than 50 ppm for disposal at a TSCA approved disposal facility.

During the subsequent review of the IA-1F soil waste profile prepared for the Carbon-Limestone Landfill, Golder became aware that there were also potential TSCA implications for soils with total PCBs ranging from >1 ppm to <50 ppm. At this time, Golder stopped further excavation in IA-1F and adjacent areas of the Site, began reviewing the applicability of and available options under TSCA, and made inquiries to USEPA regarding the potential relevance of TSCA to the cleanup activities.

During initial inquiries, the USEPA Region 3 PCB Coordinator, Kelly Bunker, stated that TSCA was applicable and later gave verbal approval to take the >50 mg/kg soils off-Site to a TSCA disposal facility (Wayne Disposal in Belleville, MI). After facility acceptance of the waste profile and USEPA approval, the >50 mg/kg soils (approximately 75 tons) were transported off-Site on July 14, 2014.

In a follow up meeting on Monday, July 28, 2014, Golder representative met with Ms. Bunker to discuss the Site cleanup activities. These discussions included that the Site was being addressed in compliance with a COA under HSCA, the multiple levels of investigation work, the total number of samples collected, the applicability of the Pennsylvania Statewide Health Standards for PCBs, the level of PCBs in the stockpiles in the <50 mg/kg stockpiles, and the current approval to dispose of the materials at Carbon-Limestone Landfill, a licensed secure Subtitle D facility. At this time, Golder submitted draft figures and tables that described the Site Cleanup activities related to PCBs. During the meeting, Ms. Bunker stated that USEPA Region 3 does not recognize the Pennsylvania Statewide Health Standards for PCBs.

Because the stockpiled soils and the PCB soil cleanup had a direct impact on Trinity's ability to comply with the overall Site cleanup schedule, Golder asked if the stockpiled soils could be addressed separately from the remaining in-place soils. Specifically, Golder asked if USEPA could 1) review the characterization work to date and provide expedited approval/concurrence for off-Site disposal of the stockpiled material at a Subtitle D facility, and 2) allow Golder to perform further PCB delineation and confirmation sampling in conformance with a TSCA self-implementing plan (SIP) under TSCA 761.61 (a).

As a follow up to the meeting, Ms. Bunker called Golder on July 31, 2014 and noted that based upon a TSCA review, the previously excavated and stockpiled materials would have to be handled in accordance with 761.61 (b) and managed in a TSCA facility, rather than a Subtitle D landfill consistent with 761.61 (a) as Golder had proposed.

Because this interpretation had cost and schedule implications to Trinity , Golder contacted Grant Dufficy, the USEPA RCRA Project Manager responsible for overseeing the ongoing Corrective Action, to discuss whether other options under the One Cleanup Program for handling PCB-impacted soils including an exemption under 761.61 (a) (1) (ii) (see below) could be applied to this situation.

> *"The self-implementing cleanup provisions shall not be binding upon cleanups conducted under other authorities, including but not limited to, actions conducted under section 104 or 106 of CERCLA, or section 3004 (u) and (v) or section 3008 (h) or RCRA."*

At this time, Golder noted that this alternative would allow the implementation of a pragmatic approach to remove the <50 ppm stockpiled material to a licensed disposal facility, Carbon-Limestone Landfill, in accordance with RCRA and allow the completion of certain other Site cleanup activities with manageable cost and schedule impacts. Concurrently, Golder believed it could complete and submit a SIP that meets TSCA requirements for delineation and confirmation samples for the remaining soils in the PCB area.

As a follow up, Golder provided the RCRA Project Manager with copies of draft figures and tables that described the Site Cleanup activities related to PCBs as well as copies of the following PADEP approvals for the Trinity South Plant Site cleanup activities for his review and consideration.

- December 21, 2006 – Consent Order and Agreement
- November 14, 2007 – PADEP Approval of the Revised Remedial Investigation Work Plan
- January 21, 2009 – PADEP Approval with Modifications of the Supplemental Investigation Work Plan
- March 31, 2010 - PADEP Approval of the Remedial Investigation Report with Modifications
- June 7, 2011 – PADEP Approval with Modifications of the Cleanup Work Plan
- April 25, 2012 – EPA Agreement to Allow Participation in the One Cleanup Program for the Trinity South Plant
- May 24, 2013 – PADEP Approval with Modifications of the Revised Cleanup Plan

During follow up discussions with Mr. Gotthold and Mr. Dufficy of the USEPA Region 3 Land and Chemicals Division, Golder learned that the USEPA preferred that Trinity address both the in situ and stockpiled PCB impacted soils at the South Plant under the provisions of TSCA §761.61(c) rather than a SIP under TSCA 761.61 (a). This would allow Trinity to implement a Risk-Based PCB Cleanup Plan within the context of the ongoing risk-based Corrective Action at the South Plant. Subsequent correspondence with USEPA confirmed agreement on a phased risk-based approach that is described in detail below.

2.0 RISK-BASED CLEANUP PLAN

2.1 Objective

Consistent with the requirements and intent of the PADEP-approved Cleanup Plan (Golder 2013) for the Site, this document incorporates the previously approved PCB delineation, waste profiling, and disposal activities into a formal Risk-Based PCB Cleanup Plan. In addition, it provides the details for the third and final phase of the risk-based PCB cleanup approach.

2.2 Approach

During discussions with USEPA Region 3 Land and Chemicals Division personnel regarding the development and implementation of a Risk-Based PCB Cleanup Plan under TSCA §761.61(c), Golder noted the following time-critical issues that were impeding non-PCB remediation activities in the former operating areas:

- The existing PCB soil stockpiles were blocking excavation of non-PCB impacted soils underneath the stockpiles
- The lack of certainty regarding the requirements for further delineation in the areas adjacent to PCB impacted soils was preventing further excavation of non-PCB soils in these areas

Because the excavation and disposal of non-PCB soils in these areas needed to be completed by mid-September to meet end-of-project construction deadlines, it was agreed that the Risk-Based PCB Cleanup Plan approach could be developed and approved in phases.

2.2.1 Phase 1

By design, the initial phase of the risk-based PCB cleanup approach only addressed off-Site disposal of previously excavated PCB impacted soil. Specifically, in this first phase Golder requested USEPA approval to dispose of the remaining stockpiled soils with total PCBs ranging from >1 ppm to <50 ppm at the Carbon-Limestone Landfill or other appropriately permitted RCRA Subtitle D Landfill (Golder 2014a). Phase 1 was approved by the USEPA in letter dated August 20, 2014 (USEPA 2014a).

Following USEPA approval, Golder prepared a waste profile for off-Site disposal, which included the soil characterization results, and submitted it to Carbon-Limestone Landfill for approval. The PCB characterization results are shown on Table 1-4 and included two 10-point composites from the pre-conditioned stockpile and one 10-point composite sample from the un-conditioned soil stockpile. The waste profile was approved and the material (approximately 1,350 tons) was subsequently transported to the landfill for disposal.

2.2.2 Phase 2

The second phase of the risk-based PCB cleanup approach addressed PCB impacted materials still in place (in situ) (see Golder 2014b). Specifically, Golder requested formal approval of a plan to do the following:

- Delineate the extent of the PCB impacted soil within the former operating areas
- Profile the material to determine appropriate disposal options that satisfy applicable federal and state regulatory standards and off-Site commercial landfill requirements
- Conduct on- and/or off-Site waste disposal that would allow cost-effective completion the overall Site Cleanup

This plan included the option for on-Site disposal of soil that was below the Pennsylvania Clean Fill Concentration Limits (PADEP 2010a) in the soon to be capped Former Disposal Area. Phase 2 was approved by USEPA in an email dated August 29, 2014 and a letter dated September 5, 2014 (USEPA 2014b).

Following USEPA approval, Golder performed additional soil delineation within the former operating areas to define the lateral and vertical extent of PCB impacts >1 ppm. The details for these additional delineation activities are provided in Section 3.0 below. The PCB results for these activities are shown on Figure 7 along with the previous PCB results for the area. Based on these combined results, Golder was able to define those soils that were outside of the PCB impacted area so they could be excavated and characterized for on- or off-Site disposal.

At this time, the PCB stockpiled soils have been removed from the Site and non-PCB soils adjacent to the PCB impacted area have been addressed.

2.2.3 Phase 3

The third and final phase of the risk-based PCB cleanup approach will address the remediation of the soils remaining PCB impacted soils within the former operating areas. Key aspects of the Phase 3 program include the following:

- Development of risk-based PCB cleanup levels in soils for non-residential uses.
- Selection of response actions to remediate soils exceeding those cleanup levels, including further excavation and disposal of soils, the potential construction of a cap in areas where PCB impacted materials cannot be removed to risk-based non-residential standards, and a commitment to restrict future uses, where necessary, through a formal legal process.

3.0 DELINEATION OF PCB IMPACTED SOILS

Following the initial excavation of the former pickling/sandblasting/painting area and in accordance with the Phase 2 letter dated August 29, 2014 (Golder 2014b), Golder performed supplemental soil characterization within the former operating areas to confirm the extent of any remaining (unexcavated, in-situ) PCB impacted soils. The soil characterization consisted of a modified grid approach, supplemented by linear test pit sampling to help define the lateral and vertical extent of impacts >1 ppm total PCBs.

3.1 Sampling Approach

For soil characterization, Golder generally employed a grid approach. However, due to the size and depth of the former operating areas, as well as consideration of the integrity and stability of building foundation structures in this area, neither strict 10 nor 5 foot grid spacing intervals were attempted or achieved. For example, some of the test pit sampling intervals were on the order of 20 feet depending upon access issues in these areas.

Initially Golder was delineating to a target concentration of 1 ppm total PCBs in the former operating areas; however, that approach was modified to ≤10 ppm total PCBs in the Phase 2 letter based on the following information:

- The facility is a former manufacturing operation that Trinity intends to repurpose as industrial
- The ≤10 ppm total PCB criterion is more stringent that the Pennsylvania medium-specific concentrations (MSCs) for specific Aroclors previously proposed in the Cleanup Plan and approved by PADEP
- Risk assessments conducted at other locations have frequently concluded that higher levels of total PCBs are acceptable as cleanup levels (e.g., 25 ppm or higher at CERCLA sites)
- Even if a final cleanup standard is established consistent with a high occupancy scenario as allowed by 761.61 (a)(4)(i)(A) and a cap is required, a ≤10 ppm standard will be sufficient to support such a remedy

3.2 Sampling Methods

Delineation samples were collected in these undisturbed areas using a combination of hand tools and an excavator bucket. At each location, soil samples were collected at the surface, 2 feet below ground surface (bgs), and 4 feet bgs. The samples were placed directly into clean laboratory-supplied sample containers, sealed in coolers, sealed, and shipped to the laboratory under chain-of custody by either a dedicated laboratory courier or via FedEx overnight delivery.

3.3 Field QA/QC

Standard field QA/QC procedures, such as sample custody procedures, sample preservation procedures, procedures to decontaminate non-dedicated equipment to prevent cross-contamination of samples, and field documentation were followed, consistent with the procedures established in the RI Work Plan and utilized during the excavation delineation sampling. While field QA/QC samples are not specified by §761.283, the following QA/QC samples were collected for consistency with the requirements of the COA and previous site characterization efforts:

- Field duplicates were collected at a frequency of one per 20 samples and submitted for laboratory analysis to assess the precision of sampling procedures and laboratory analysis. Field duplicates and split samples were collected by sampling the same location twice, or by submitting two aliquots of a composite sample for analysis. When collecting field duplicate or split samples, the sample containers for each analytical parameter was filled for both the primary and duplicate/split sample before the jars for the next analytical parameter were filled. Field duplicates were assigned a unique sample identification number and submitted to the same laboratory for analysis.
- Field equipment blank samples (also referred to herein as equipment blank samples) were useful to check for procedural contamination and/or ambient conditions and/or sample container contamination at the Site that may have caused sample contamination. Field equipment blank samples were collected at a frequency of one per day per type of decontamination event where non-dedicated equipment was used. They were collected by routing laboratory provided organic-free deionized water or laboratory provided metals-free water through decontaminated sampling equipment and sampling media.

3.4 Sample Analyses and Reporting

Delineation samples were submitted to PACE Analytical Services (PACE) laboratory in Schenectady, New York for PCB analysis using the Soxhlet extraction technique for subsequent analysis by SW-846 Method 8082. Analytical results were delivered in both standard laboratory format and electronic data deliverable (EDD) format for verification and validation, as described below, and management in an EQuIS database.

3.5 Data Verification and Validation

Data verification was completed upon data receipt and included reviewing field measurement documentation and laboratory data packages to determine whether the data is complete and to confirm that all requested information has been received and comply with specified requirements.

Data Validation is a process of screening, accepting, rejecting or qualifying sample data on the basis of specific quality control criteria (e.g. holding times, calibration, blank results, spike results, surrogates, and field duplicates). Data validation is a process whereby erroneous data may be identified prior to entering the project record. While the TSCA regulations do not specifically require data validation, for consistency with the procedures in the RI Work Plan, all sample results will undergo a data quality assessment prior to inclusion in the Final Report.

The data quality assessment for soil samples in areas where the soils were removed during cleanup activities will be limited to verification that the sample results were complete, were generated in accordance with the requested analytical methods within specified holding time, were not attributable to blank contamination, and have sufficient sensitivity. Laboratory case narratives or analyte qualifier notes will be reviewed for notification of gross QC non-compliance that would cause data to be unusable for decision-making purposes. Qualifiers will not be applied to the data; however the project manager will be apprised of unusable data.

The data quality assessment for confirmation samples used to define the areas where soils will remain after completion of remedial activities will include verification and data validation. Using the terminology of Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use (EPA 540-R-10-006, January 2009), the data will undergo a Stage 2A data validation where the laboratory data will be reviewed for precision, accuracy, representativeness, and comparability based on sample-specific Data Quality Indicators, such as surrogate recoveries and field duplicate precision. Should QA non-conformances be identified, qualifiers would be applied to the data in general accordance with the guidance established in USEPA Contract Laboratory Program *National Functional Guidelines for Superfund Organic Methods Data Review* (June 2008), as applicable to SW-846 Method 8082A.

3.6 Equipment Decontamination

All re-usable sampling tools and/or equipment (e.g., excavator bucket) were decontaminated using a double wash/rinse prior to moving to the next sampling location. Prior to releasing the sampling tools and/or equipment to other areas of the Site, the equipment was decontaminated using a double wash/rinse and then wipe sampled and analyzed for PCBs. All wipe sample results were reported non-detect by the laboratory for PCBs.

3.7 Delineation Results

For soil delineation, more than 290 individual soil samples were collected following the initial excavations of this area. Based on the analytical results, 73 percent of those samples representing conditions laterally and at depth had concentrations ≤1 ppm total PCBs and 96 percent had concentrations ≤10 ppm total PCBs. Only one sample had a concentration >50 ppm total PCBs.

The majority of samples with concentrations >10 ppm total PCBs were in locations adjacent to excavations for IA-1E/IA-1F. One location (IA1D-DF45), approximately 40 feet west of IA-1E/IA-1F had a primary sample with a concentration of 33.6 ppm total PCBs in surface soil and field duplicate with a concentration of 103 ppm total PCBs. At this location, Golder performed additional soil characterization to determine the extent of soils with total PCBs >50 ppm.

4.0 WASTE CHARACTERIZATIONS AND DISPOSAL

Following the completion of PCB delineation sampling, Golder will excavate and stockpile materials by Impact Area (IA) within the excavation footprint directly and then characterize them for disposal purposes.

4.1 Waste Characterization

For excavated soils, Golder will collect a ten-point composite sample from the stockpiles and analyze them for PCBs, other pertinent COCs, and waste characterization parameters, including TCLP metals, and submit them to a laboratory for rapid turn-around analyses. All waste characterization samples will be submitted to PACE Schenectady, New York laboratory for PCB analysis using the Soxhlet extraction technique for subsequent analysis by SW-846 Method 8082 and to the PACE Greensburg, Pennsylvania laboratory for other COC and waste characterization analyses.

These stockpile waste characterization results along with the in-situ PCB results will be used to determine appropriate disposal options. This approach is similar to that taken previously during the IA-1E and !A-1F excavations, except the material has been better characterized in-situ during delineation activities, leading to greater certainty with regard to the levels of PCBs in the stockpiled material. Golder will continue with this waste characterization approach until remediation of impacted soils within the former operating areas is complete.

4.2 Disposal Options

The PCB remediation effort will consist of either on- or off-Site disposal of the impacted materials, depending upon PCB concentration. For PCB impacted materials greater than risk-based cleanup levels, off-Site disposal is the primary disposal option.

4.2.1 On-Site Disposal

In order to meet end-of-project construction deadlines, including completion of HDPE liner/cap emplacement and seeding and establishment of sufficient vegetation cover prior to the onset of winter weather, excavation and placement of any material was completed by September 2014.

To the extent the construction timeframe allowed, and excavated soils impacted by PCBs were both below the Pennsylvania Clean Fill Concentration Limits (PADEP 2010a) and necessary for achieving landfill design (e.g., volume and grading) specifications, Golder placed them within the now capped Former Disposal Area.

The Pennsylvania Clean Fill Concentration Limits for PCBs are listed below:

Parameter	CASRN	Clean Fill Concentration (mg/kg or ppm)
PCB-1016 (AROCLOR)	12674-11-2	15
PCB-1221 (AROCLOR)	11104-28-2	0.63
PCB-1232 (AROCLOR)	11141-16-5	0.50
PCB-1242 (AROCLOR)	53469-21-9	16
PCB-1248 (AROCLOR)	12672-29-6	9.90
PCB-1254 (AROCLOR)	11097-69-1	4.40
PCB-1260 (AROCLOR)	11096-82-5	30

Note: Excerpt from Table FP-1a Clean Fill Concentration Limits for Organics; PADEP Management of Fill Policy; August 7, 2010 (PADEP 2010a)

4.2.2 Off-Site Disposal

For the remaining PCB impacted soils in the former operating area, the following off-Site disposal options will be used based on in-situ PCB results in accordance with TSCA §761.61.

- Non-hazardous impacted soils with impacted soils with total in-situ PCB concentrations <50 ppm will be disposed off-Site at the secure Subtitle D landfill (Carbon-Limestone Landfill in Lowellville, Ohio) that previously received such PCB remediation waste consistent with the August 20, 2014 USEPA Region 3 written approval.
- Impacted soils with total in-situ PCB concentrations >50 ppm will be disposed off-site at the TSCA disposal facility (Wayne Disposal in Belleville, MI) that previously received such PCB remediation waste consistent with the July 2014 USEPA Region 3 verbal approval.

5.0 RISK-BASED REMEDIATION APPROACH

Consistent with TSCA §761.61(c), Golder developed risk-based PCB soil cleanup levels following procedures in the USEPA Risk Assessment Guidance for Superfund: Human Health Evaluation Manual (Part A) (USEPA 1989) and the Human Health Evaluation Manual (USEPA 1991). The process included the following steps:

- Identifying the Site-specific constituents of concern (i.e., Aroclor 1248, Aroclor 1254, and Aroclor 1262) based on comparisons of Site data to USEPA regional screening level (RSL) tables (USEPA, 2014).
- Identifying appropriate exposure scenarios and parameters based on current and future uses as an industrial facility.
- Selecting appropriate toxicity values and chemical-specific parameters as defined in the USEPA Regional Screening Level (RSL) tables (USEPA 2014).
- Using particulate emission factors to potential transfer of Aroclors in soil to air via wind-borne dust using the methodology and parameters outlined in the USEPA Soil Screening Guidance (USEPA 2002).
- Selecting target risk levels following USEPA guidelines for carcinogenic and non-carcinogenic risk.

5.1 Constituents Of Concern

For the purposes of this evaluation, PCB COCs were selected by comparing Aroclors detected on-Site to their respective USEPA Residential soil screening level as found in the USEPA regional screening level (RSL) tables (USEPA, 2014). The Aroclors with concentrations exceeding the RSLs were retained as COCs. The COC screening results are presented below.

Constituent of Concern Selection

Analyte[1]	USEPA Residential Soil Screening Level (mg/kg)[2]	Maximum Detected Concentration (mg/kg)[3]	Selected as a Constituent of Concern?
Aroclor 1248	0.24	27.1	Yes
Aroclor 1254	0.24	103	Yes
Aroclor 1260	0.24	0.15	No
Aroclor 1262[4]	0.24	2.92	Yes

Notes:
1 Those PCB Aroclors with at least one detect in the Data set.
2 Taken from the USEPA Regional Screening Level Tables Website, Updated May of 2014.
3 Taken from both historic and recent sampling results.
4 Aroclor 1262 was not analyzed for every sample. It is a rare Aroclor and the appropriate calibrations are not always in place prior to analysis. In those cases where the Aroclor patterns indicated its presence, the laboratory re-analyzed the sample for Aroclor 1262 under the appropriate calibration.

Based on these screening results, Aroclors 1248, 1254, and 1262 are considered to be COCs and will require the calculation of risk-based soil cleanup levels. Aroclor 1260 is not expected to be present at the

Site in concentrations that exceed residential exposures, hence measured concentrations would be acceptable for occupational or trespasser exposures.

5.2 Exposure Scenarios And Parameters

Based on the current and anticipated future use of the Site, the most likely current and future exposure scenarios include the adult industrial worker and the older child trespasser (ages 10-16). While younger children (<10 years of age) may be found in surrounding residential areas, the presence of security fencing would prevent any potential trespassing by younger child receptors. Furthermore, any potential exposure to younger children by wind-blown dust would be limited by both exposure and distance from the Site. Therefore, any calculated soil cleanup levels for the older child trespasser would be protective of younger child off-site receptors. Both receptors would come into direct contact with PCB Aroclors in soil via the incidental ingestion and dermal contact exposure pathways, as well as through the inhalation of contaminated wind-blown dust. Note that none of the detected PCB Aroclors is considered volatile in the USEPA RSL tables (USEPA 2014c), indicating that the inhalation of volatile PCBs in the ambient air is not a complete exposure pathway and was not evaluated in this assessment. While an adult trespasser (<16 years of age) is possible, due to the limited levels of exposure to an adult trespasser, the industrial worker soil cleanup levels should be protective of the adult trespasser scenario. The scenarios and their associated exposure parameters are discussed below.

5.2.1 Industrial Worker

The adult industrial worker is assumed to work on-site up to eight hours per day five days per week for a total exposure frequency of 250 days per year, for an exposure duration of 25 years (USEPA 2011). The adult body weight of 80 kilogram (kg), taken from the USEPA Exposure Factors Handbook (USEPA 2011), was assumed. Furthermore, the default values for the soil ingestion rate (100 mg/day), exposed skin surface area (3,470 cm2) ,and soil adherence factor (0.12 mg/cm2) were selected based on USEPA default values consistent with those values utilized for the outdoor industrial worker RSL (USEPA 2014c).

The exposure parameters used to calculate a site-specific soil cleanup level for the industrial worker are summarized below.

Industrial Worker Exposure Factors

Parameter	Symbol	Value	Unit	Source
Adherence Factor, Worker	AF_w	0.12	mg/cm^2	USEPA 2011
Averaging Time, Carcinogenic	AT_c	25,550	days	USEPA 1991
Averaging Time, Non-carcinogenic	AT_{nc}	9,125	days	USEPA 1991, ED x 365 days/year
Body Weight, Adult	BW_a	80	kg	USEPA 2011
Exposure Duration, Industrial Worker	ED_w	25	years	USEPA 2011
Exposure Frequency, Industrial Worker	EF_w	250	days/year	USEPA 2011
Exposure Time	ET_w	8.0	hours/day	USEPA 2011
Soil Ingestion Rate, Industrial Worker	IRS_w	100	mg/day	USEPA 2011
Surface Area	SA_w	3,470	cm^2	USEPA 2011

References:
USEPA 1991. Human health evaluation manual, supplemental guidance: "Standard default exposure factors". OSWER Directive 9285.6-03
USEPA 2011. USEPA Exposure Factors Handbook
USEPA 2014. USEPA Regional Screening Level Tables. Dated May of 2014

5.2.2 Older Child Trespasser

The older child trespasser (ages 10-16) is assumed to trespass once per week up to two hours for a total exposure frequency of 52 days per year. A receptor-specific body weight of 53 kilogram (kg) was calculated by taking the average of the body weights from ages 10-11 (31.8 kg) and 11-16 (56.8 kg) found in the USEPA's Exposure Factors Handbook (USEPA 2011) as presented in Appendix B, Table B-1. In addition, the child residential soil ingestion rate of 100 milligrams per day (mg/day) was selected from the USEPA exposure factors handbook (USEPA 2011).

For the dermal contact with soil exposure pathway, receptor-specific exposed skin surface area and soil adherence factor were calculated using the equation and values outlined in the USEPA Exposure Factors Handbook (USEPA 2011) as presented in Appendix B, Table B-2. When deriving the receptor-specific exposed skin surface area and soil adherence factors, it is assumed that during outdoor activities the lower legs, hands, forearms, and face of the trespasser have the potential to be exposed to soil. The results of this receptor-specific calculation show an exposed skin surface area of 3,706 square centimeters and a soil adherence factor of 0.072 milligrams per square centimeter (mg/cm^2).

The exposure parameters used to calculate a site-specific soil cleanup level for the older child trespasser are summarized below.

Older Child Trespasser Exposure Factors

Parameter	Symbol	Value	Unit	Source
Adherence Factor, Older Child	AF_{oc}	0.072	mg/cm^2	See Appendix B, Table B-2
Averaging Time, Carcinogenic	AT_c	25,550	days	USEPA 1991
Averaging Time, Non-carcinogenic	AT_{nc}	2,190	days	USEPA 1991, ED x 365 days/year
Body Weight, Older Child	BW_{oc}	53	kg	See Appendix B, Table B-1
Dermal contact factor- age-adjusted	$DFS_{oc\text{-}adj}$	1,580	mg/kg	Calculated using the following equation: $(ED_{oc}*EF_{oc}*SA_{oc}*AF_{oc})/BW_{oc}$
Exposure Duration, Older Child	ED_{oc}	6.0	years	USEPA 1991
Exposure Frequency, Older Child Trespasser	EF_{oc}	52	days/year	Best professional judgment. Once per week
Exposure Time, Older Child Trespasser	ET_{oc}	2.0	hours/day	Value for Playing on gravel/dirt (USEPA 2011, Table 16-1)
Age-adjusted Soil Ingestion Rate, Older Child	$IFS_{oc\text{-}adj}$	593	mg/kg	Calculated using the following equation: $=(ED_{oc} \times EF_{oc} \times IRS_{oc})/BW_{oc}$
Soil Ingestion Rate, Older Child	IRS_{oc}	100	mg/day	USEPA 2011
Surface Area, Older Child	SA_{oc}	3,706	cm^2	See Appendix B, Table B-2

References:
USEPA 1991. Human health evaluation manual, supplemental guidance: "Standard default exposure factors". OSWER Directive 9285.6-03
USEPA 2011. USEPA Exposure Factors Handbook
USEPA 2014. USEPA Regional Screening Level Tables. Dated May of 2014

5.3 Toxicity Values And Chemical-Specific Parameters

The selected toxicity factors and chemical-specific parameters utilized to calculate soil cleanup levels are those values presented in the most recent version of the USEPA RSL tables (USEPA 2014c), which are based on current USEPA guidance and appropriate for use in this calculation. Both the oral carcinogenic slope factor (CSFo) and inhalation unit risk (IUR) for the PCB Aroclors are based on the USEPA Integrated Risk Information System (IRIS) toxicological profile for PCBs (USEPA 1997a). In accordance with the USEPA RSL User's Guide, the CSFo and IUR for all other Aroclors were taken from "High Risk PCBs". For the estimation of non-carcinogenic hazard, the oral reference dose (RfDo) for Aroclor 1254, the sole Aroclor associated with non-carcinogenic hazard, was taken from USEPA IRIS database (USEPA 1997b). Note that there are no applicable inhalation Reference Concentrations (RfCs) for PCBs, indicating that there is no non-carcinogenic hazard to human health from the inhalation of PCBs. The selected toxicity values and chemical parameters to calculate soil screening levels for PCBs along with the applicable references are presented below:

Toxicity Factors

Analyte	CAS	Mutagenic?[1]	Oral Reface Dose (RfD_o)[1]		Target Organ	Oral Cancer Slope Factor (CSF_o)[1]		Inhalation Reference Concentration (RfC)[1]		Target Organ	Inhalation Unit Risk (IUR)[1]		GIABS[1]	ABS_d[1]
			Value (mg/kg-day)	Ref		Value $(mg/kg\text{-}day)^{-1}$	Ref	Value (mg/m^3)	Ref		Value $(\mu g/m^3)^{-1}$	Ref	unitless	unitless
Aroclor 1248	12672-29-6	No	--	--	--	2.0	S	--	--	--	0.00057	S	1.0	0.14
Aroclor 1254	11097-69-1	No	0.000020	I	Eyes, Nails, Immunological	2.0	S	--	--	--	0.00057	S	1.0	0.14
Aroclor 1262[2]	37324-23-5	No	--	--	--	2.0	S	--	--	--	0.00057	S	1.0	0.14

Notes:

1. Values taken from the USEPA Regional Screening Level Tables, Dated May 2014
2. Due to a lack of appropriate toxicity values for Aroclor 1262, surrogate toxicity values were based on "Polychlorinated Biphenyls (high risk)" as found in the May 2014, USEPA RSL tables, as in accordance with USEPA Guidance

NA = Not Available
I = Integrated Risk Information System value
S = Surrogate value taken from "High Risk" PCBs for Aroclors 1248, 1254, and 1262 in accordance with the USEPA RSL guidance.

5.4 Particulate Emission Factor

Particulate emission factors (PEFs) were used to calculate the potential transfer of PCB Aroclors in soil to air via wind-blown dust using the methodology and parameters outlined in the USEPA Soil Screening Guidance (USEPA 2002). A PEF for fugitive dust emissions from wind of 6.3 × 108 m^3/kg was calculated for modelling the wind-blown dust emissions. The specific parameters, equations, methodologies, and applicable references used to calculate the PEF for fugitive dust emissions are presented in Appendix B, Table B-3. It was developed to be a conservative estimate for fugitive dust emissions, and as such, the calculation was performed assuming there is no vegetative cover at the Site.

5.5 Target Risk Levels

In accordance with USEPA guidance, an initial target cancer risk of 1.0 ×10^{-6} was selected as the initial target cancer risk. In accordance with USEPA guidance, the final carcinogenic soil cleanup level was then adjusted to both a 1 x 10^{-5} and 1 x 10^{-4} target cancer risk, in order to provide options for the selection of the final carcinogenic soil cleanup levels that result in a cumulative cancer risk less than USEPA upper cancer risk threshold 1 x 10^{-4} (USEPA 1989). Furthermore, a target hazard quotient (THQ) of 1.0 was selected in accordance with USEPA guidance (USEPA 2002).

5.6 Soil Cleanup Level Calculation

Using the toxicity factors and exposure parameters described in the previous sections, the site-specific soil cleanup levels for PCBs were calculated using the equations presented in the USEPA RSL Tables Users Guide (USEPA 2014c). The equations used estimate the soil cleanup levels for each exposure pathways are presented in Tables 5-1-1 through 5-1-3 for the industrial worker exposure scenario, and Tables 5-2-1 through 5-2-3 for the older child trespasser exposure scenario.

Once the individual soil cleanup levels were calculated for each exposure pathways, total soil cleanup levels for both carcinogenic and non-carcinogenic endpoints were calculated using the following equation:

$$Soil\ Cleanup\ Level\ (total) = \frac{1}{\frac{1}{Soil\ Cleanup\ Level\ (Ingestion)} + \frac{1}{Soil\ Cleanup\ Level\ (dermal)} + \frac{1}{Soil\ Cleanup\ Level\ (Inhalation)}}$$

Both the carcinogenic and non-carcinogenic soil cleanup levels, as well as the final recommended soil cleanup level are presented in Table 5-1-4 for the industrial worker exposure scenario and Table 5-2-4 for the older child trespasser exposure scenario. The final recommended soil cleanup levels for each exposure scenario are presented below.

Final Selected Soil Cleanup Levels for PCB Aroclors

Analyte	Industrial Worker Soil Cleanup Level		Older Child Trespasser Soil Cleanup Level	
	Value (mg/kg)	Source	Value (mg/kg)	Source
Aroclor 1248	10	Based on a TR of 1×10^{-5}	157	Based on a TR of 1×10^{-5}
Aroclor 1254	15	Based on a THQ of 1.0	54	Based on a THQ of 1.0
Aroclor 1262	10	Based on a TR of 1×10^{-5}	157	Based on a TR of 1×10^{-5}

Notes:
TR – Target Risk
THQ – Target Hazard Quotient

Based on these calculations, the most conservative risk-based PCB Aroclor soil cleanup levels are for the industrial worker exposure scenario. Furthermore, the resulting cumulative carcinogenic risk from exposure to PCB Aroclors at the cleanup levels is 3.4×10^{-5} for the industrial worker exposure scenario and 2.5×10^{-5} for the older child trespasser exposure scenario, both of which are well below the acceptable USEPA carcinogenic risk threshold of 1×10^{-4} (USEPA 1989), indicating that at the proposed soil cleanup levels, the potential carcinogenic risk would be within acceptable limits.

5.7 Uncertainty

As is typical in risk assessment, the estimation of soil cleanup levels based on potential health effects (cancer risks and non-cancer hazards) have associated uncertainty. This uncertainty is addressed by making protective assumptions such that risks are more likely to be overestimated than underestimated. The primary areas of uncertainty and associated limitations are qualitatively discussed in this section.

5.7.1 Exposure Parameter Assumptions

For the industrial worker exposure scenario the assumption that a potential industrial worker would work continuously in the same local area with known PCB contamination is unlikely, and would tend to significantly overestimate the potential exposure, resulting in a low soil cleanup level. Furthermore, as the planned future usage includes an open ended structure including ground cover, it is unlikely that an industrial worker would come into contact with the surface soil which would eliminate both the direct exposure pathways (incidental ingestion and dermal contact with soil) as well as the indirect exposure pathways (inhalation of wind-born dust), which would eliminate the need for a risk-based soil cleanup level.

For the older child trespasser exposure scenario, there is uncertainty associated with the overall level of exposure. As the Site is surrounded by security fencing, it is unlikely that an older child would have the ability to trespass on-Site, let alone on a regular basis. Therefore, the inclusion of a regular exposure

frequency would tend to dramatically overestimate the levels of exposure, leading to a lower calculated soil cleanup level.

5.7.2 Soil Cleanup Level Calculation

The calculation of soil cleanup levels relies on the assumption that only PCB Aroclors contribute substantially to Site risk at this location. As such, the overall potential cumulative Site cancer risk and HI does not account for other non-PCB analytes, and may underestimate overall cumulative cancer risk and/or non-cancer hazard.

5.8 Summary

Using the methodology, toxicity factors, and exposure parameters described in the previous sections, the site-specific soil cleanup levels for PCB Aroclors were calculated using the equations presented in the USEPA Regional Screening Level Tables Users Guide (USEPA 2014c). A target cancer risk (TR) of 1.0 $\times 10^{-5}$ and target non-cancer hazard quotient (THQ) of 1.0 were selected as the respective cancer risk and non-cancer hazard goals for the soil screening levels. Based on these calculations, the most conservative risk-based soil cleanup levels are listed below:

- Aroclor 1248 – 10 mg/kg (ppm)
- Aroclor 1254 – 15 mg/kg (ppm)
- Aroclor 1262 – 10 mg/kg (ppm)

6.0 RESPONSE ACTIONS

The Risk-Based PCB Cleanup Plan will consist of the following response actions for PCB impacted soils in the in the former operating areas:

6.1 Adjacent Lead Impacted Areas (IAs)

6.1.1 Completed Response Actions

As discussed in our Phase 2 letter dated August 29, 2014 (Golder 2014b) and Section 3.0, Golder performed additional delineation sampling in the lead impacted areas (IAs) adjacent to IA-1E and IA-1F to define the extent of any remaining (unexcavated, in-situ) PCB impacted soils. Following the completion of PCB delineation sampling in these IAs, the soils beyond the PCB impacted areas were excavated and stockpiled by IA within the excavation footprint. From each stockpile, Golder collected a ten-point composite waste characterization sample to determine the complete waste profile and appropriate disposal options for the stockpiled soils.

In accordance with a September 5, 2014 EPA approval of the Phase 2 letter (USEPA 2014b), non-hazardous soils from these adjacent IAs with PCB concentrations below the Pennsylvania Clean Fill Concentration Limits for PCBs[1] were placed within the to-be-capped on-Site Former Disposal Area consistent with the approved Cleanup Plan (Golder 2013) until September 20, 2014. At that time, on-Site disposal was stopped to meet end-of-project construction deadlines, including completion of HDPE liner/cap emplacement and seeding and establishment of sufficient vegetation cover prior to the onset of winter weather.

The post excavation in situ PCB results are shown on Figure 8.

6.1.2 Additional Response Actions

Going forward, Golder will excavate the remaining lead-impacted soils from these adjacent IAs and dispose them off-Site at the following facilities depending upon PCB concentrations and other waste characteristics:

- Non-hazardous impacted soils with total in-situ PCB concentrations <50 ppm are being disposed off-Site at the secure Subtitle D landfill (Carbon-Limestone Landfill in Lowellville, Ohio) that previously received such PCB remediation waste consistent with the August 20, 2014 USEPA Region 3 written approval.
- Impacted soils with total in-situ PCB concentrations >50 ppm are being disposed off-Site at the TSCA disposal facility (Wayne Disposal in Belleville, Michigan) that previously received such PCB remediation waste consistent with the July 2014 USEPA Region 3 verbal approval.

[1] Table FP-1a Clean Fill Concentration Limits for Organics; PADEP Management of Fill Policy; August 7, 2010

6.2 AOC-S3 - Former CB&I Pickling/Sandblasting/Painting Area

6.2.1 Previous Response Actions

AOC-S3 (Former CB&I Pickling/Sandblasting/Painting Area), where PCB impacted soils with total PCBs >50 ppm were found, is located within an open-ended former manufacturing building. In accordance with the approved Cleanup Plan (Golder 2013), Golder delineated and planned on excavating soils within this area to remove volatile organic compound (VOC) and lead impacts at depths up to 10 feet bgs.

During supplemental sampling and initial removal activities, Golder also identified a subset of this area (IA-1E) with soils impacted by PCBs >50 ppm. Those PCB impacted soils were delineated and then conditioned to a depth of 2 feet bgs, excavated, and stockpiled on-Site prior to waste characterization and off-Site disposal. This stockpile was located under roof within the confines of the former operations areas, placed on an HDPE liner, and covered with plastic. In accordance with the specifications in the approved Cleanup Plan (Golder 2013), Golder collected floor and wall confirmation samples to confirm that soils with PCBs >50 ppm were removed from this area.

Following receipt of the PCB confirmation results, Golder continued to pre-condition the top two feet of soil and excavate the remaining VOC and lead impacted soils within AOC-S3 (IA-1F) to depths ranging from 2-10 feet. The pre-conditioned and un-conditioned soils were placed in two other segregated stockpiles pending waste characterization results and acceptance for off-Site disposal at the landfill. Those stockpiles were also located within the confines of the former operations areas and placed on HDPE liners.

Because the excavations within this building were up to 10 feet deep and below the groundwater table (approximately 4 feet), there was a significant potential for the excavations to disturb the building and adjacent overhead crane foundations. Therefore, special precautions were taken to minimize damage to the building and hazards to on-Site workers. These precautions included stepping out a fixed distance from the building walls/foundations, minimizing the open excavation foot print, taking necessary confirmation samples immediately after soils were excavated to the planned depth, and partially backfilling the area with 3-inch stone to stabilize the soils before moving to the adjacent excavation area.

In accordance with the specifications in the approved Cleanup Plan (Golder 2013), Golder initially collected floor and wall confirmation samples in these areas to confirm that soils exceeding the VOC action levels were removed. After further research on PCB cleanup requirements, Golder also asked the laboratory to analyze these samples for PCBs. While these samples were out of holding time, they provided qualitative information regarding the nature and extent of PCBs remaining after the VOC area was excavated.

6.2.2 Additional Response Actions

6.2.2.1 Additional PCB Delineation

As part of the deeper excavations in IA-1F, the majority of the area below IA-1E (the area with PCBs >50 ppm) was excavated an additional 8 feet to remove soils with VOC and lead impacts. In addition, two-thirds of the VOC impacted soil in IA-1F was excavated to 8-10 feet bgs and one-third was excavated to 4 ft bgs. All of these excavations were to or below the water table. Golder initially collected confirmation samples from these excavations and analyzed them for metals, VOC, and SVOC analyses. When the potential arose for remediating soils to 1 ppm total PCBs, Golder asked the laboratory to run PCBs analyses on these samples using a non-Soxhlet extraction technique prior to analysis by SW-846 Method 8082. Those results are included on shown on Figure 8 for qualitative purposes. Because these deeper excavation areas were excavated well beyond the lateral and vertical extent of defined PCB impacts and it is now technically impracticable to sample the floors of these areas further, Golder does not plan any further confirmation sampling in these areas.

In the shallower (2-4 feet bgs) lead excavation areas in IA-1D east of IA-1F, however, Golder has already sampled for PCBs on a 5-foot grid to confirm that PCBs have been remediated to the site-specific soil cleanup levels discussed in Section 5.8. These samples were analyzed by PACE using the Soxhlet extraction technique prior to analysis by SW-846 Method 8082.

6.2.2.2 Additional Soil Excavation

In areas where additional delineation shows that soils exceed the risk-based PCB soil cleanup levels, Golder plans to excavate soils further, to the lateral and vertical extent that it is technically practicable, and dispose of them off-Site in accordance Section 4.1.2. These areas include those soils adjacent to and approximately five feet out from the building and overhead crane foundations that were previously left in place to minimize disturbance to those features and prevent damage to the buildings and crane. This additional work is ongoing and is expected to be completed by December 5, 2014.

6.2.2.3 Alternative Remediation Requirements

In areas where PCB impacted materials cannot be removed to meet risk-based cleanup levels detailed in Section because it is not technically practicable to achieve them (e.g., further excavation could damage the existing structures or pose unacceptable health and safety risks to remediation construction workers), Golder will perform additional remedial measures as described in Section 8.0 to limit current and future exposure to these impacted materials.

7.0 CONFIRMATION SAMPLING

For all areas where PCBs greater than the risk-based cleanup levels were removed, Golder will perform post-excavation sampling to confirm that risk-based cleanup levels listed in Section 5.8 were achieved and/or document the concentrations of PCBs remaining in soil. As discussed in Section 6.2.2.1, this does not include the deeper IA-1E and IA-1F excavations. The sampling protocol/approach and preliminary confirmation sampling results are presented below:

7.1 Sampling Approach

After completion of the additional response activities, Golder will collect confirmation samples in accordance with Subpart O of the TSCA regulations (40 CFR Parts 761.260 through 761.272). A square-based grid with an interval of 1.5 meters (approximately 5 feet) will be overlaid on the remediated areas as shown on Figure 9. Due to the presence of the existing buildings, the perpendicular axes were established so that the east-west axes are parallel to the walls in AOC-S3. This will allow the remediation area to be completely covered by the sampling grid with minimal obstructions. The proposed confirmation sample locations are shown on Figure 9.

At least three soil samples in each excavation area will be analyzed. Individual samples may be composited following the procedures described in 761.289. If the additional removal areas are small or irregularly shaped, such that the minimum 3-samples are not generated with the 1.5 meter grid, the procedures for such areas specified in 761.283(c) may be employed.

7.2 Sampling Methods

Samples will be collected as described in Section 3.2 Sampling personnel will not enter the excavations greater than 3 feet deep.

7.3 Field QA/QC

Field QA/QC samples will be collected as described in Section 3.3.

7.4 Sample Analyses & Reporting

Sample analyses and reporting will be performed as described in Section 3.4.

7.5 Data Verification and Validation

Data verification and validation will be performed as described in Section 3.5.

7.6 Corrective Actions

Should the confirmation sample results indicate that soils with PCB concentrations above the risk-based cleanup levels remain, additional response actions will be performed to remove the material, if feasible, or install a protective barrier/cap complying with 761.61(a) as described in Sections 6.2.2.2 and 6.2.2.3.

7.7 Preliminary Confirmation Sampling Results

As noted in Section 3.7, 96 percent of the more than 290 individual soil samples collected in the former operating areas were ≤10 ppm total PCBs, and therefore, did not require further PCB remediation. For those areas with >10 ppm total PCBs, the majority of those samples were collected in locations near IA-1E. At this time, Golder is still remediating the areas south and west of IA-1E and IA-1F. Confirmation sampling results for these areas will be included in the Final Report for the South Plant Corrective Action/Cleanup Plan activities (See Section 9.0).

For those areas where PCB remediation is complete, the confirmation sampling results for those areas are presented below.

7.7.1 Area East of IA-1F

In the shallower (2-4 feet bgs) lead excavation areas in IA-1D east of IA-1F, confirmation sampling results show that that PCBs have been remediated to the site-specific soil cleanup levels discussed in Section 5.8. Those results are shown on Figure 8.

7.7.2 IA1D-DF45 Area

At this location, Golder performed additional soil characterization to determine the extent of soils with total PCBs >50 ppm, excavated those soils, and then performed confirmation sampling. Confirmation sampling results (see Figure 8) showed that all remaining soils in this area were below the site-specific soil cleanup levels discussed in Section 5.8. .

8.0 FUTURE OPERATIONS AND MAINTENANCE

In limited areas where PCB impacted materials cannot be removed to meet risk-based cleanup levels because it is not technically practicable to achieve them (e.g., further excavation could compromise the existing structures), Golder will perform additional remedial measures (e.g., construct a cap), place signs, and execute environmental covenants, as necessary, to mitigate potential impacts and restrict future uses consistent with applicable sections of TSCA §761.

8.1 Capping, Fencing, and Signage

For *High Occupancy Areas* and *Low Occupancy Areas* where confirmation sampling shows that the remaining PCB concentrations exceed risk-based cleanup levels, Golder will install a cap constructed of concrete, asphalt or similar material of minimum thickness spread over the area where the PCB impacted material was left in place in order to prevent or minimize human exposure, infiltration of water, and erosion. The cap will meet the design requirements of TSCA §761.61(a)(7) and the deed restriction requirements of TSCA §761.61(a)(8). After installation, Golder will survey the limits of the cap for deed restriction and maintenance purposes.

For *Low Occupancy Areas* where confirmation sampling shows that the remaining PCB concentrations exceed risk-based cleanup levels but are less than 50 ppm total PCBs, Golder may elect to secure the area with a fence rather than install a cap. The fence will be marked in accordance with TSCA §761.45 Marking formats.

8.2 Inspections and Cap Maintenance

If a cap is required to limit direct contact to any remaining PCBs that exceed the risk-based cleanup levels, Golder will update the Operations and Maintenance Manual found in Appendix G of the PADEP approved Cleanup Plan (Golder 2013) to include routine inspections and maintenance of this cap. These updates will also be documented in the Final Report for South Plant Corrective Action/Cleanup Plan activities (see Section 9.0).

8.3 Administrative Activities

At the conclusion of all Site-wide Cleanup activities, which includes these Risk-Based PCB Cleanup activities and PADEP and USEPA approval of the Final Report, Trinity will execute environmental covenants for the South Plant, as required under the COA (Pennsylvania 2006), Act 2 (Pennsylvania 2002), and TSCA §761.61, to meet both state and federal land re-use requirements.

If required, the environmental covenants will include a notation in perpetuity so that potential purchasers receive a disclosure about the following:

- Any impacted material that was disposed of on-Site

- The use restrictions that apply to all future owners

If a cap is required the covenant will also include the following:

- The limits of the cap
- The PCB levels under the cap
- The owner's obligation to maintain the cap

The environmental covenants will be prepared and executed in accordance with Pennsylvania Uniform Environmental Covenants Act, Act No. 68 of 2007 (“Act 68” or PAUECA). Copies of the final environmental covenants will be submitted to the EPA Regional Administrator after they are recorded with the County of Mercer Recorders Office.

9.0 FINAL REPORT

All PCB remediation activities will be documented along with other site cleanup activities in the South Plant Final Report. The Final Report will include the following information:

- A brief summary of the completed cleanup activities
- Tables summarizing the delineation and confirmation sampling results
- Copies of the accompanying analytical chains of custody
- Field and laboratory quality control/quality assurance checks
- The as-built limits of PCB cleanup activities
- Total quantities of PCB impacted soil excavated and disposed of at the following facilities.
  - On-Site consolidation, disposal, and capping in the Former Disposal Area.
    - Impacted soils with total in-situ PCB concentrations <4 ppm
  - Off-Site disposal at a RCRA Subtitle D landfill
    - Impacted soils with total in-situ PCB concentrations >4 ppm and <50 ppm
  - Off-Site disposal at TSCA disposal facility
    - Impacted soils with total in-situ PCB concentrations >50 ppm
- Copies of applicable waste manifests
- Copies of applicable Certificates of Disposal
- The as-built limits of the closed Former Disposal Area
- Any additional final restoration/closure requirements for the remediated areas

In accordance with the COA (Pennsylvania 2006), the PADEP approved Cleanup Plan (Golder 2014), and the USEPA approval of this risk-based PCB cleanup approach, the Final Report will be submitted to PADEP and the USEPA for review and approval within 90 days of the completion of the South Plant Corrective Action/Cleanup Plan activities.

10.0 SIGNATURES

The following representatives of Trinity (the Site Owner), and Golder (the Remediator) 1) certify that all plans related to the PCB Cleanup at the South Plant are on file and available for inspection at Golder's Mt. Laurel, New Jersey office and 2) request approval of this Risk-Based PCB Cleanup Plan by the USEPA:

Mr. Richard T. Barrett
Trinity Industries, Inc.
2525 Stemmons Freeway
Dallas, TX 75207

Mr. Joseph B. Gormley, Jr., P.E.
Project Coordinator
Golder Associates Inc.
200 Century Parkway, Suite C
Mt. Laurel, NJ 08054

11.0 REFERENCES

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Golder 2014a. Letter requesting USEPA approval to dispose of PCB impacted soils identified, excavated, and temporarily stockpiled during ongoing South Plant cleanup activities at an appropriately permitted off-Site disposal facility (Phase 1 of the Risk-Based PCB Cleanup Plan). Golder Associates Inc., August 15, 2014.

Golder 2014b. Letter requesting USEPA approval for 1) delineating the extent of the PCB impacted soil within the former operating areas, 2) profiling the material to determine disposal options and satisfy applicable TSCA regulatory standards and off-Site commercial landfill requirements, and 3) conducting on- and/or off-Site waste disposal that would allow us to cost-effectively complete the overall Site Cleanup. (Phase 2 of the Risk-Based PCB Cleanup Plan)Golder Associates Inc., August 29, 2014.

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USEPA 2014a. USEPA Region 3 letter to Golder Associates approving Phase 1 of the Risk-based PCB Cleanup Plan, United States Environmental Protection Agency Region 3 Land and Chemicals Division, August 20, 2014.

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At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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TABLES

Table 1-1
Remedial Investigation PCB Soil Results
Risk-Based PCB Cleanup Plan - South Plant
Trinity Industries, Inc.
Hempfield Township, Pennsylvania

				Analytic Method	SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			
				Parameter	Aroclor 1016			Aroclor 1221			Aroclor 1232			Aroclor 1242			Aroclor 1248			Aroclor 1254			Aroclor 1260			Total Aroclors*
				CAS #	12674-11-2			11104-28-2			11141-16-5			53469-21-9			12672-29-6			11097-69-1			11096-82-5			
				Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg
				Non-Residential Direct Contact MSCs 0-2 ft	200			40			40			40			40			40			40			40
				Non-Residential Direct Contact MSCs 2-15 ft	10,000			10,000			10,000			10,000			10,000			10,000			190,000			10,000
				Non-Residential Soil to GW MSCs,Used Aquifer TDS<=2500 MAX	200			0.63			0.5			16			62			260			590			62
Sample ID	Sample Date	Sample Type Code	Start Depth (ft)	End Depth (ft)	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Calculated
Monitoring Well Locations																										
MW-S1	1/25/2008	N	0	2	< 0.0034	U	0.003	< 0.0044	U	0.004	< 0.0039	U	0.004	< 0.0037	U	0.004	< 0.0022	U	0.002	< 0.0033	U	0.003	< 0.0033	U	0.003	0
MW-S1	1/25/2008	N	4	6	< 0.0031	U	0.003	< 0.004	U	0.004	< 0.0036	U	0.004	< 0.0034	U	0.003	< 0.002	U	0.002	< 0.003	U	0.003	< 0.003	U	0.003	0
MW-S3	1/23/2008	N	2	3	< 0.0035	U	0.004	< 0.0045	U	0.005	< 0.004	U	0.004	< 0.0038	U	0.004	< 0.0022	U	0.002	< 0.0033	U	0.003	< 0.0033	U	0.003	0
MW-S4	1/22/2008	N	0	2	< 0.0033	U	0.003	< 0.0042	U	0.004	< 0.0038	U	0.004	< 0.0036	U	0.004	< 0.0021	U	0.002	< 0.0031	U	0.003	< 0.0031	U	0.003	0
MW-S5	1/24/2008	N	0	2	< 0.0032	U	0.003	< 0.0041	U	0.004	< 0.0037	U	0.004	< 0.0035	U	0.004	< 0.0021	U	0.002	< 0.0031	U	0.003	< 0.0031	U	0.003	0
MW-S5	1/24/2008	N	4	6	< 0.003	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0033	U	0.003	< 0.0019	U	0.002	< 0.0029	U	0.003	< 0.0029	U	0.003	0
MW-S6	1/25/2008	N	0	2	< 0.0031	U	0.003	< 0.004	U	0.004	< 0.0036	U	0.004	< 0.0034	U	0.003	< 0.002	U	0.002	0.13		0.003	< 0.003	U	0.003	0.13
MW-S6	1/25/2008	FD	0	2	< 0.0036	U	0.004	< 0.0046	U	0.005	< 0.0041	U	0.004	< 0.0039	U	0.004	< 0.0023	U	0.002	0.39		0.003	< 0.0034	U	0.003	0.39
MW-S6	1/25/2008	N	4	6	< 0.0029	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0032	U	0.003	< 0.0019	U	0.002	< 0.0028	U	0.003	< 0.0028	U	0.003	0
MW-S7	1/24/2008	N	0	2	< 0.003	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0032	U	0.003	< 0.0019	U	0.002	< 0.0028	U	0.003	< 0.0028	U	0.003	0
MW-S7	1/24/2008	N	4	6	< 0.003	U	0.003	< 0.0039	U	0.004	< 0.0035	U	0.004	< 0.0033	U	0.003	< 0.0019	U	0.002	< 0.0029	U	0.003	< 0.0029	U	0.003	0
MW-S9	1/24/2008	N	0	2	< 0.0029	U	0.003	< 0.0037	U	0.004	< 0.0033	U	0.003	< 0.0031	U	0.003	< 0.0018	U	0.002	< 0.0027	U	0.003	0.018	J	0.003	0.018
MW-S9	1/24/2008	N	3	5	< 0.0031	U	0.003	< 0.004	U	0.004	< 0.0036	U	0.004	< 0.0034	U	0.003	< 0.002	U	0.002	< 0.003	U	0.003	< 0.003	U	0.003	0
MW-S10	2/24/2009	N	0	2	< 0.0029	U	0.003	< 0.0037	U	0.004	< 0.0033	U	0.003	< 0.0032	U	0.003	< 0.0018	U	0.002	< 0.0028	U	0.003	0.025	J	0.003	0.025
MW-S10	2/24/2009	FD	0	2	< 0.0027	U	0.003	< 0.0035	U	0.004	< 0.0031	U	0.003	< 0.003	U	0.003	< 0.0017	U	0.002	< 0.0026	U	0.003	< 0.0026	U	0.003	0
MW-S10	2/24/2009	N	6	8	< 0.003	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0032	U	0.003	< 0.0019	U	0.002	< 0.0028	U	0.003	< 0.0028	U	0.003	0
MW-S11	2/24/2009	N	0	2	< 0.0034	U	0.003	< 0.0044	U	0.004	< 0.0039	U	0.004	< 0.0037	U	0.004	< 0.0022	U	0.002	< 0.0033	U	0.003	0.081		0.003	0.081
MW-S11	2/24/2009	N	4	5	< 0.0032	U	0.003	< 0.0041	U	0.004	< 0.0037	U	0.004	< 0.0035	U	0.004	< 0.002	U	0.002	< 0.003	U	0.003	< 0.003	U	0.003	0
MW-S12	2/24/2009	N	2	4	< 0.0032	U	0.003	< 0.0041	U	0.004	< 0.0037	U	0.004	< 0.0035	U	0.004	< 0.002	U	0.002	< 0.0031	U	0.003	< 0.0031	U	0.003	0
MW-S12	2/24/2009	N	8	10	< 0.0038	U	0.004	< 0.0048	U	0.005	< 0.0043	U	0.004	< 0.0041	U	0.004	< 0.0024	U	0.002	< 0.0036	U	0.004	< 0.0036	U	0.004	0
Soil Boring Locations																										
SB-S1	12/11/2007	N	0	2	< 0.0033	U	0.003	< 0.0042	U	0.004	< 0.0038	U	0.004	< 0.0036	U	0.004	< 0.0021	U	0.002	< 0.0031	U	0.003	< 0.0031	U	0.003	0
SB-S1	12/11/2007	FD	0	2	< 0.0031	U	0.003	< 0.0039	U	0.004	< 0.0035	U	0.004	< 0.0033	U	0.003	< 0.0019	U	0.002	< 0.0029	U	0.003	< 0.0029	U	0.003	0
SB-S1	12/11/2007	N	6	8	< 0.0035	U	0.004	< 0.0045	U	0.005	< 0.004	U	0.004	< 0.0038	U	0.004	< 0.0022	U	0.002	< 0.0033	U	0.003	< 0.0033	U	0.003	0
SB-S2	12/11/2007	N	0	2	< 0.0031	U	0.003	< 0.004	U	0.004	< 0.0036	U	0.004	< 0.0034	U	0.003	< 0.002	U	0.002	< 0.003	U	0.003	0.012	J	0.003	0.012
SB-S3	12/12/2007	N	0	2	< 0.003	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0033	U	0.003	< 0.0019	U	0.002	< 0.0029	U	0.003	< 0.0029	U	0.003	0
SB-S3	12/12/2007	N	10	12	< 0.0033	U	0.003	< 0.0042	U	0.004	< 0.0038	U	0.004	< 0.0036	U	0.004	< 0.0021	U	0.002	< 0.0032	U	0.003	< 0.0032	U	0.003	0
SB-S4	12/12/2007	N	0	2	< 0.0032	U	0.003	< 0.0041	U	0.004	< 0.0037	U	0.004	< 0.0035	U	0.004	< 0.002	U	0.002	< 0.0031	U	0.003	< 0.0031	U	0.003	0
SB-S4	12/12/2007	N	9	11	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0033	U	0.003	< 0.0031	U	0.003	< 0.0018	U	0.002	< 0.0027	U	0.003	< 0.0027	U	0.003	0
SB-S10	12/14/2007	N	0	2	< 0.003	U	0.003	< 0.0039	U	0.004	< 0.0035	U	0.004	< 0.0033	U	0.003	< 0.0019	U	0.002	0.11		0.003	< 0.0029	U	0.003	0.11
SB-S12	12/17/2007	N	0	2	< 0.0035	U	0.004	< 0.0045	U	0.005	< 0.0041	U	0.004	< 0.0039	U	0.004	< 0.0023	U	0.002	< 0.0034	U	0.003	< 0.0034	U	0.003	0
SB-S12	12/17/2007	FD	0	2	< 0.0034	U	0.003	< 0.0044	U	0.004	< 0.0039	U	0.004	< 0.0037	U	0.004	< 0.0022	U	0.002	< 0.0033	U	0.003	< 0.0033	U	0.003	0
SB-S15	12/17/2007	N	0	2	< 0.032	U	0.032	< 0.042	U	0.042	< 0.037	U	0.037	< 0.035	U	0.035	< 0.021	U	0.021	14		0.031	< 0.031	U	0.031	14
SB-S15	12/17/2007	FD	0	2	< 0.031	U	0.031	< 0.04	U	0.04	< 0.036	U	0.036	< 0.034	U	0.034	< 0.02	U	0.02	14		0.03	< 0.03	U	0.03	14
SB-S16	12/14/2007	N	0	2	< 0.0033	U	0.003	< 0.0042	U	0.004	< 0.0038	U	0.004	< 0.0036	U	0.004	< 0.0021	U	0.002	< 0.0031	U	0.003	0.021	J	0.003	0.021
SB-S16	12/14/2007	N	8	10	< 0.003	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0033	U	0.003	< 0.0019	U	0.002	< 0.0029	U	0.003	< 0.0029	U	0.003	0
SB-S20A	12/12/2007	N	0	2	< 0.0032	U	0.003	< 0.0041	U	0.004	< 0.0036	U	0.004	< 0.0035	U	0.004	< 0.002	U	0.002	< 0.003	U	0.003	< 0.003	U	0.003	0
SB-S20B	12/12/2007	N	0	2	< 0.0031	U	0.003	< 0.0039	U	0.004	< 0.0035	U	0.004	< 0.0034	U	0.003	< 0.002	U	0.002	< 0.0029	U	0.003	< 0.0029	U	0.003	0
SB-S23	12/11/2007	N	0	2	< 0.0031	U	0.003	< 0.004	U	0.004	< 0.0036	U	0.004	< 0.0034	U	0.003	< 0.002	U	0.002	< 0.003	U	0.003	< 0.003	U	0.003	0
SB-S24	12/13/2007	N	0	2	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0033	U	0.003	< 0.0031	U	0.003	< 0.0018	U	0.002	< 0.0027	U	0.003	< 0.0027	U	0.003	0
SB-S26	12/11/2007	N	0	2	< 0.0032	U	0.003	< 0.0041	U	0.004	< 0.0037	U	0.004	< 0.0035	U	0.004	< 0.002	U	0.002	< 0.003	U	0.003	< 0.003	U	0.003	0

Table 1-1
Remedial Investigation PCB Soil Results
Risk-Based PCB Cleanup Plan - South Plant
Trinity Industries, Inc.
Hempfield Township, Pennsylvania

				Analytic Method	SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			
				Parameter	Aroclor 1016			Aroclor 1221			Aroclor 1232			Aroclor 1242			Aroclor 1248			Aroclor 1254			Aroclor 1260			Total Aroclors*
				CAS #	12674-11-2			11104-28-2			11141-16-5			53469-21-9			12672-29-6			11097-69-1			11096-82-5			
				Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg
				Non-Residential Direct Contact MSCs 0-2 ft	200			40			40			40			40			40			40			40
				Non-Residential Direct Contact MSCs 2-15 ft	10,000			10,000			10,000			10,000			10,000			10,000			190,000			10,000
				Non-Residential Soil to GW MSCs,Used Aquifer TDS<=2500 MAX	200			0.63			0.5			16			62			260			590			62
Sample ID	Sample Date	Sample Type Code	Start Depth (ft)	End Depth (ft)	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Calculated
SB-S27	12/11/2007	N	0	2	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0032	U	0.003	< 0.003	U	0.003	< 0.0018	U	0.002	< 0.0027	U	0.003	< 0.0027	U	0.003	0
SB-S28	12/11/2007	N	0	2	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0032	U	0.003	< 0.0031	U	0.003	< 0.0018	U	0.002	< 0.0027	U	0.003	< 0.0027	U	0.003	0
SB-S30	12/13/2007	N	0	2	< 0.0029	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0032	U	0.003	< 0.0019	U	0.002	< 0.0028	U	0.003	< 0.0028	U	0.003	0
SB-S32	2/11/2009	N	0	2	< 0.0032	U	0.003	< 0.0041	U	0.004	< 0.0037	U	0.004	< 0.0035	U	0.004	< 0.002	U	0.002	< 0.0031	U	0.003	< 0.0031	U	0.003	0
SB-S32	2/11/2009	N	4	6	< 0.0032	U	0.003	< 0.0041	U	0.004	< 0.0037	U	0.004	< 0.0035	U	0.004	< 0.002	U	0.002	< 0.0031	U	0.003	< 0.0031	U	0.003	0
SB-S33	2/11/2009	N	0	2	< 0.0029	U	0.003	< 0.0037	U	0.004	< 0.0033	U	0.003	< 0.0032	U	0.003	< 0.0018	U	0.002	0.057		0.003	< 0.0028	U	0.003	0.057
SB-S33	2/11/2009	N	4	6	< 0.0031	U	0.003	< 0.0039	U	0.004	< 0.0035	U	0.004	< 0.0034	U	0.003	< 0.0019	U	0.002	0.12		0.003	< 0.0029	U	0.003	0.12
SB-S34	2/25/2009	N	0.5	2	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0033	U	0.003	< 0.0031	U	0.003	< 0.0018	U	0.002	< 0.0027	U	0.003	< 0.0027	U	0.003	0
SB-S34	2/25/2009	N	6	8	< 0.0029	U	0.003	< 0.0037	U	0.004	< 0.0033	U	0.003	< 0.0032	U	0.003	< 0.0018	U	0.002	< 0.0028	U	0.003	< 0.0028	U	0.003	0
SB-S35	2/25/2009	N	0.5	2	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0033	U	0.003	< 0.0031	U	0.003	< 0.0018	U	0.002	< 0.0027	U	0.003	< 0.0027	U	0.003	0
SB-S35	2/25/2009	N	6	8	< 0.003	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0033	U	0.003	< 0.0019	U	0.002	< 0.0028	U	0.003	< 0.0028	U	0.003	0
Stormwater Drainage Locations																										
SS-S1	12/19/2007	N	0	0.1	< 0.0041	U	0.004	< 0.0053	U	0.005	< 0.0048	U	0.005	< 0.0045	U	0.005	< 0.0026	U	0.003	< 0.004	U	0.004	0.0082	J	0.004	0.0082
SS-S2	12/19/2007	N	0	0.1	< 0.0035	U	0.004	< 0.0045	U	0.005	< 0.0041	U	0.004	< 0.0039	U	0.004	< 0.0023	U	0.002	0.006	J	0.003	< 0.0034	U	0.003	0.006
SS-S3	12/19/2007	N	0	0.1	< 0.0068	U	0.007	< 0.0087	U	0.009	< 0.0078	U	0.008	< 0.0074	U	0.007	< 0.0043	U	0.004	0.074	J	0.007	0.045	J	0.007	0.119
SS-S4	12/19/2007	N	0	0.1	< 0.0052	U	0.005	< 0.0067	U	0.007	< 0.006	U	0.006	< 0.0057	U	0.006	< 0.0033	U	0.003	< 0.005	U	0.005	0.012	J	0.005	0.012
SS-S5	12/19/2007	N	0	0.1	< 0.0062	U	0.006	< 0.0079	U	0.008	< 0.0071	U	0.007	< 0.0068	U	0.007	< 0.0039	U	0.004	0.14		0.006	0.093		0.006	0.233
SS-S6	12/18/2007	N	0	0.1	< 0.0031	UJ	0.003	< 0.004	UJ	0.004	< 0.0036	UJ	0.004	< 0.0034	UJ	0.003	< 0.002	UJ	0.002	< 0.003	UJ	0.003	< 0.003	UJ	0.003	0
SS-S7	12/19/2007	N	0	0.1	< 0.0055	U	0.006	< 0.0071	U	0.007	< 0.0064	U	0.006	< 0.0061	U	0.006	< 0.0035	U	0.004	0.06	J	0.005	0.072	J	0.005	0.132
SS-S7	12/19/2007	FD	0	0.1	< 0.0055	U	0.006	< 0.007	U	0.007	< 0.0063	U	0.006	< 0.006	U	0.006	< 0.0035	U	0.004	0.14		0.005	0.15		0.005	0.29
SS-S8	12/18/2007	N	0	0.1	< 0.0039	U	0.004	< 0.005	U	0.005	< 0.0045	U	0.005	< 0.0042	U	0.004	< 0.0025	U	0.003	0.15		0.004	< 0.0037	U	0.004	0.15
SS-S9	12/18/2007	N	0	0.1	< 0.0048	U	0.005	< 0.0061	U	0.006	< 0.0055	U	0.006	< 0.0052	U	0.005	< 0.003	U	0.003	0.08		0.005	0.1		0.005	0.18
SS-S10	12/18/2007	N	0	0.1	< 0.006	U	0.006	< 0.0077	U	0.008	< 0.007	U	0.007	< 0.0066	U	0.007	< 0.0038	U	0.004	0.13		0.006	0.097		0.006	0.227
SS-S11	12/19/2007	N	0	0.1	< 0.0056	U	0.006	< 0.0072	U	0.007	< 0.0065	U	0.007	< 0.0062	U	0.006	< 0.0036	U	0.004	0.044	J	0.005	0.05	J	0.005	0.094
Test Pit Locations																										
TP-S1	12/13/2007	N	0	2	< 0.003	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0033	U	0.003	< 0.0019	U	0.002	1.1		0.003	< 0.0028	U	0.003	1.1
TP-S1	12/13/2007	N	6	7	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0032	U	0.003	< 0.003	U	0.003	0.08		0.002	0.27		0.003	< 0.0027	U	0.003	0.35
TP-S1	12/13/2007	N	13	15	< 0.0031	U	0.003	< 0.004	U	0.004	< 0.0036	U	0.004	< 0.0034	U	0.003	< 0.002	U	0.002	< 0.003	U	0.003	< 0.003	U	0.003	0
TP-S2	12/13/2007	N	0	2	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0032	U	0.003	< 0.0031	U	0.003	< 0.0018	U	0.002	0.32		0.003	< 0.0027	U	0.003	0.32
TP-S2	12/13/2007	N	6	7	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0032	U	0.003	< 0.0031	U	0.003	< 0.0018	U	0.002	0.077		0.003	< 0.0027	U	0.003	0.077
TP-S2	12/13/2007	N	13	15	< 0.0027	U	0.003	< 0.0035	U	0.004	< 0.0031	U	0.003	< 0.003	U	0.003	< 0.0017	U	0.002	< 0.0026	U	0.003	< 0.0026	U	0.003	0
TP-S3	12/13/2007	N	0	2	< 0.003	U	0.003	< 0.0038	U	0.004	< 0.0034	U	0.003	< 0.0033	U	0.003	< 0.0019	U	0.002	0.3		0.003	< 0.0028	U	0.003	0.3
TP-S3	12/13/2007	FD	0	2	< 0.0031	U	0.003	< 0.0039	U	0.004	< 0.0035	U	0.004	< 0.0034	U	0.003	< 0.002	U	0.002	0.23		0.003	< 0.0029	U	0.003	0.23
TP-S3	12/13/2007	N	6	7	< 0.0028	U	0.003	< 0.0036	U	0.004	< 0.0032	U	0.003	< 0.0031	U	0.003	0.068		0.002	0.14		0.003	< 0.0027	U	0.003	0.208
TP-S3	12/13/2007	N	13	14	< 0.0031	U	0.003	< 0.004	U	0.004	< 0.0036	U	0.004	< 0.0034	U	0.003	< 0.002	U	0.002	< 0.003	U	0.003	< 0.003	U	0.003	0
TP-S4	12/13/2007	N	0	2	< 0.0029	UJ	0.003	< 0.0038	UJ	0.004	< 0.0034	UJ	0.003	< 0.0032	UJ	0.003	< 0.0019	UJ	0.002	< 0.0028	UJ	0.003	< 0.0028	UJ	0.003	0
TP-S4	12/13/2007	N	5	7	< 0.0037	UJ	0.004	< 0.0048	UJ	0.005	< 0.0043	UJ	0.004	< 0.0041	UJ	0.004	0.21	J	0.002	0.15	J	0.004	0.081	J	0.004	0.441
TP-S4	12/13/2007	N	10	11	< 0.0032	UJ	0.003	< 0.0042	UJ	0.004	< 0.0037	UJ	0.004	< 0.0035	UJ	0.004	< 0.0021	UJ	0.002	< 0.0031	UJ	0.003	< 0.0031	UJ	0.003	0
TP-S5	12/13/2007	N	0	2	< 0.0032	UJ	0.003	< 0.0041	UJ	0.004	< 0.0037	UJ	0.004	< 0.0035	UJ	0.004	0.35	J	0.002	0.087	J	0.003	0.054	J	0.003	0.491
TP-S5	12/13/2007	N	8	9	< 0.0034	UJ	0.003	< 0.0043	UJ	0.004	< 0.0039	UJ	0.004	< 0.0037	UJ	0.004	< 0.0021	UJ	0.002	< 0.0032	UJ	0.003	< 0.0032	UJ	0.003	0
TP-S6	12/13/2007	N	0	2	< 0.0037	UJ	0.004	< 0.0048	UJ	0.005	< 0.0043	UJ	0.004	< 0.0041	UJ	0.004	0.012	J	0.002	< 0.0036	UJ	0.004	0.066	J	0.004	0.078
TP-S6	12/13/2007	N	8	9	< 0.0034	UJ	0.003	< 0.0043	UJ	0.004	< 0.0039	UJ	0.004	< 0.0037	UJ	0.004	< 0.0022	UJ	0.002	< 0.0032	UJ	0.003	< 0.0032	UJ	0.003	0

Table 1-1
Remedial Investigation PCB Soil Results
Risk-Based PCB Cleanup Plan - South Plant
Trinity Industries, Inc.
Hempfield Township, Pennsylvania

				Analytic Method	SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			
				Parameter	Aroclor 1016			Aroclor 1221			Aroclor 1232			Aroclor 1242			Aroclor 1248			Aroclor 1254			Aroclor 1260			Total Aroclors*
				CAS #	12674-11-2			11104-28-2			11141-16-5			53469-21-9			12672-29-6			11097-69-1			11096-82-5			
				Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg
				Non-Residential Direct Contact MSCs 0-2 ft	200			40			40			40			40			40			40			40
				Non-Residential Direct Contact MSCs 2-15 ft	10,000			10,000			10,000			10,000			10,000			10,000			190,000			10,000
				Non-Residential Soil to GW MSCs,Used Aquifer TDS<=2500 MAX	200			0.63			0.5			16			62			260			590			62
Sample ID	Sample Date	Sample Type Code	Start Depth (ft)	End Depth (ft)	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Result	Qual	RDL	Calculated
TP-S7	12/13/2007	N	1	3	< 0.0027	UJ	0.003	< 0.0034	UJ	0.003	< 0.0031	UJ	0.003	< 0.0029	UJ	0.003	< 0.0017	UJ	0.002	0.023	J	0.003	< 0.0026	UJ	0.003	0.023
TP-S7	12/13/2007	N	7	8	< 0.0033	UJ	0.003	< 0.0042	UJ	0.004	< 0.0038	UJ	0.004	< 0.0036	UJ	0.004	< 0.0021	UJ	0.002	< 0.0031	UJ	0.003	< 0.0031	UJ	0.003	0
TP-S8	12/13/2007	N	0	2	< 0.0029	U	0.003	< 0.0037	U	0.004	< 0.0033	U	0.003	< 0.0032	U	0.003	< 0.0018	U	0.002	0.029	J	0.003	< 0.0028	U	0.003	0.029
TP-S8	12/13/2007	N	6	7	< 0.0034	U	0.003	< 0.0043	U	0.004	< 0.0039	U	0.004	< 0.0037	U	0.004	< 0.0021	U	0.002	0.049		0.003	< 0.0032	U	0.003	0.049
TP-S10	12/12/2007	N	5	6	< 0.0036	U	0.004	< 0.0047	U	0.005	< 0.0042	U	0.004	< 0.004	U	0.004	< 0.0023	U	0.002	< 0.0035	U	0.004	< 0.0035	U	0.004	0

4	Greater than Soil to Groundwater MSC
65	Greater than Direct Contact MSC

Abbreviations
DC : direct contact
MSCs : Pennsylvania Act 2 medium specific concentrations
GW : groundwater
ft : feet
TDS : total dissolved solids
N : normal sample
FD : field duplicate sample
U : non-detect result
UJ : estimated non-detect result
J : estimated detected result
Qual : data validation qualifiers
RDL : reporting detection limit
* : lowest MSCs for detected Aroclors

Table 1-2
Pre-Excavation Delineation PCB Soil Results
Risk-Based PCB Cleanup Plan - South Plant
Trinity Industries, Inc.
Hempfield Township, Pennsylvania

Analytic Method					SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082		
Parameter					Aroclor 1016			Aroclor 1221			Aroclor 1232			Aroclor 1242			Aroclor 1248			Aroclor 1254			Aroclor 1260			Total PCBs*		
CAS #					12674-11-2			11104-28-2			11141-16-5			53469-21-9			12672-29-6			11097-69-1			11096-82-5			1336-36-3		
Units					mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
Non-Residential Direct Contact MSCs 0-2 ft					200			40			40			40			40			40			40			40		
Non-Residential Direct Contact MSCs 2-15 ft					10,000			10,000			10,000			10,000			10,000			10,000			190,000			10,000		
Non-Residential Soil to GW MSCs,Used Aquifer TDS<=2500 MAX					200			0.63			0.5			16			62			260			590			62		
Sample ID	Sample Date	Sample Type Code	Start Depth (ft)	End Depth (ft)	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL
Soil Boring Locations																												
PA-S01	2/13/2014	N	0	2	< 0.0182	U	0.018	< 0.0182	U	0.018	< 0.0182	U	0.018	< 0.0182	U	0.018	< 0.0182	U	0.018	0.402		0.091	< 0.0182	U	0.018	0.402		0.0909
PA-S01	2/13/2014	N	2	4	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	0.448		0.096	< 0.0192	U	0.019	0.448		0.0959
PA-S01	2/13/2014	N	4	8	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	0.19		0.019	< 0.0189	U	0.019	0.19		0.0189
PA-S01	2/13/2014	N	8	12	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02
PA-S01	2/13/2014	N	12	16	< 0.0195	U	0.02	< 0.0195	U	0.02	< 0.0195	U	0.02	< 0.0195	U	0.02	< 0.0195	U	0.02	< 0.0195	U	0.02	< 0.0195	U	0.02	< 0.0195	U	0.0195
PA-S01	2/13/2014	N	16	20	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.0183
PA-S01	2/13/2014	N	20	24	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.0184
PA-S07	2/7/2014	N	0	2	< 0.895	U	0.895	< 0.895	U	0.895	< 0.895	U	0.895	< 0.895	U	0.895	< 0.895	U	0.895	12.2		0.895	< 0.895	U	0.895	12.2		0.895
PA-S08	2/7/2014	N	0	2	< 0.0957	U	0.096	< 0.0957	U	0.096	< 0.0957	U	0.096	< 0.0957	U	0.096	< 0.0957	U	0.096	0.684		0.096	< 0.0957	U	0.096	0.684		0.0957
PA-S09	2/6/2014	N	8	12	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.0188
PA-S10	2/6/2014	FD	0	2	< 9.19	U	9.19	< 9.19	U	9.19	< 9.19	U	9.19	< 9.19	U	9.19	< 9.19	U	9.19	**73.2**		9.19	< 9.19	U	9.19	**73.2**		9.19
PA-S10	2/6/2014	N	0	2	< 3.7	U	3.7	< 3.7	U	3.7	< 3.7	U	3.7	< 3.7	U	3.7	< 3.7	U	3.7	**56**		3.7	< 3.7	U	3.7	**56**		3.7
PA-S10	2/6/2014	N	2	4	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	1.76		0.202	2.58		0.202	< 0.202	U	0.202	4.34		0.202
PA-S10	2/6/2014	N	4	6	< 0.0202	U	0.02	< 0.0202	U	0.02	< 0.0202	U	0.02	< 0.0202	U	0.02	< 0.0202	U	0.02	0.184		0.02	< 0.0202	U	0.02	0.184		0.0202
PA-S10	2/6/2014	N	6	8	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.0204
PA-S10	2/6/2014	N	8	12	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.0185
PA-S11	2/5/2014	N	0	2	< 0.929	U	0.929	< 0.929	U	0.929	< 0.929	U	0.929	< 0.929	U	0.929	< 0.929	U	0.929	6.05		0.929	< 0.929	U	0.929	6.05		0.929
PA-S11	2/5/2014	N	2	4	< 9.05	U	9.05	< 9.05	U	9.05	< 9.05	U	9.05	< 9.05	U	9.05	< 9.05	U	9.05	32.9		9.05	< 9.05	U	9.05	32.9		9.05
PA-S11	2/5/2014	N	4	6	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	2.89		0.418	< 0.418	U	0.418	2.89		0.418
PA-S11	2/5/2014	N	6	8	< 0.0201	U	0.02	< 0.0201	U	0.02	< 0.0201	U	0.02	< 0.0201	U	0.02	< 0.0201	U	0.02	0.024		0.02	< 0.0201	U	0.02	0.024		0.0201
PA-S11	2/5/2014	N	8	10	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	2.37		0.418	< 0.418	U	0.418	2.37		0.418
PA-S11	2/5/2014	N	10	12	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.018	0.019		0.018	0.0264		0.018	< 0.0183	U	0.018	0.0454		0.0183
PA-S11	2/5/2014	N	12	16	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	0.0524		0.019	< 0.0193	U	0.019	0.0524		0.0193
PA-S11	2/5/2014	N	16	20	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.0188
PA-S11	2/5/2014	FD	20	24	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.0181
PA-S11	2/5/2014	N	20	24	< 0.018	U	0.018	< 0.018	U	0.018	< 0.018	U	0.018	< 0.018	U	0.018	< 0.018	U	0.018	< 0.018	U	0.018	< 0.018	U	0.018	< 0.018	U	0.018
PA-S12	2/5/2014	N	6	8	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02
PA-S12	2/5/2014	N	8	12	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	0.0263		0.019
PA-S13	2/5/2014	N	0	2	< 0.915	U	0.915	< 0.915	U	0.915	< 0.915	U	0.915	< 0.915	U	0.915	< 0.915	U	0.915	10.4		0.915	< 0.915	U	0.915	10.4		0.915
PA-S13	2/5/2014	N	4	6	< 0.0986	U	0.099	< 0.0986	U	0.099	< 0.0986	U	0.099	< 0.0986	U	0.099	< 0.0986	U	0.099	0.639		0.099	< 0.0986	U	0.099	0.639		0.0986
PA-S13	2/5/2014	N	8	12	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.0205
PA-S14	2/5/2014	N	8	12	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	0.356		0.018	< 0.0181	U	0.018	0.356		0.0181
PA-S15	2/5/2014	N	0	2	< 0.947	U	0.947	< 0.947	U	0.947	< 0.947	U	0.947	< 0.947	U	0.947	< 0.947	U	0.947	13.5		0.947	< 0.947	U	0.947	13.5		0.947
PA-S15	2/5/2014	N	2	4	< 0.0216	U	0.022	< 0.0216	U	0.022	< 0.0216	U	0.022	< 0.0216	U	0.022	0.202		0.022	0.256		0.022	< 0.0216	U	0.022	0.457		0.0216
PA-S15	2/5/2014	N	4	6	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	0.116		0.02	< 0.0203	U	0.02	0.116		0.0203
PA-S15	2/5/2014	N	6	8	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.0192
PA-S15	2/5/2014	N	8	12	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.0185
PA-S16	2/6/2014	N	2	4	< 0.102	U	0.102	< 0.102	U	0.102	< 0.102	U	0.102	< 0.102	U	0.102	0.705		0.102	1.23		0.102	< 0.102	U	0.102	1.94		0.102
PA-S16	2/6/2014	N	4	6	< 0.0222	U	0.022	< 0.0222	U	0.022	< 0.0222	U	0.022	< 0.0222	U	0.022	< 0.0222	U	0.022	0.222		0.022	< 0.0222	U	0.022	0.222		0.0222
PA-S16	2/6/2014	N	6	8	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.0193
PA-S17	2/14/2014	N	0	2	< 0.0213	U	0.021	< 0.0213	U	0.021	< 0.0213	U	0.021	< 0.0213	U	0.021	< 0.0213	U	0.021	0.0623		0.021	< 0.0213	U	0.021	0.0623		0.0213
PA-S17	2/14/2014	N	2	4	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021
PA-S17	2/14/2014	N	4	6	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021
PA-S18	2/14/2014	N	0	4	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.0203

Table 1-2
Pre-Excavation Delineation PCB Soil Results
Risk-Based PCB Cleanup Plan - South Plant
Trinity Industries, Inc.
Hempfield Township, Pennsylvania

Analytic Method					SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082		
Parameter					Aroclor 1016			Aroclor 1221			Aroclor 1232			Aroclor 1242			Aroclor 1248			Aroclor 1254			Aroclor 1260			Total PCBs*		
CAS #					12674-11-2			11104-28-2			11141-16-5			53469-21-9			12672-29-6			11097-69-1			11096-82-5			1336-36-3		
Units					mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
Non-Residential Direct Contact MSCs 0-2 ft					200			40			40			40			40			40			40			40		
Non-Residential Direct Contact MSCs 2-15 ft					10,000			10,000			10,000			10,000			10,000			10,000			190,000			10,000		
Non-Residential Soil to GW MSCs,Used Aquifer TDS<=2500 MAX					200			0.63			0.5			16			62			260			590			62		
Sample ID	Sample Date	Sample Type Code	Start Depth (ft)	End Depth (ft)	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL
PA-S18	2/14/2014	N	4	8	< 0.0212	U	0.021	< 0.0212	U	0.021	< 0.0212	U	0.021	< 0.0212	U	0.021	< 0.0212	U	0.021	< 0.0212	U	0.021	< 0.0212	U	0.021	< 0.0212	U	0.0212
PA-S19	2/13/2014	N	0	2	< 0.0186	U	0.019	< 0.0186	U	0.019	< 0.0186	U	0.019	< 0.0186	U	0.019	< 0.0186	U	0.019	0.427		0.093	< 0.0186	U	0.019	0.427		0.093
PA-S19	2/13/2014	N	2	4	< 0.0269	U	0.027	< 0.0269	U	0.027	< 0.0269	U	0.027	< 0.0269	U	0.027	< 0.0269	U	0.027	0.643		0.135	< 0.0269	U	0.027	0.643		0.135
PA-S19	2/13/2014	N	4	6	< 0.0195	U	0.02	< 0.0195	U	0.02	< 0.0195	U	0.02	< 0.0195	U	0.02	< 0.0195	U	0.02	0.0241		0.02	< 0.0195	U	0.02	0.0241		0.0195
PA-S19	2/13/2014	N	6	8	< 0.0197	U	0.02	< 0.0197	U	0.02	< 0.0197	U	0.02	< 0.0197	U	0.02	< 0.0197	U	0.02	< 0.0197	U	0.02	< 0.0197	U	0.02	< 0.0197	U	0.0197
PA-S19	2/13/2014	N	8	12	< 0.0186	U	0.019	< 0.0186	U	0.019	< 0.0186	U	0.019	< 0.0186	U	0.019	< 0.0186	U	0.019	< 0.0186	U	0.019	< 0.0186	U	0.019	< 0.0186	U	0.0186
PA-S19	2/13/2014	N	12	16	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.0189
PA-S20	2/13/2014	N	0	2	< 0.039	U	0.039	< 0.039	U	0.039	< 0.039	U	0.039	< 0.039	U	0.039	< 0.039	U	0.039	0.75		0.039	< 0.039	U	0.039	0.75		0.039
PA-S20	2/13/2014	N	2	4	< 0.0227	U	0.023	< 0.0227	U	0.023	< 0.0227	U	0.023	< 0.0227	U	0.023	< 0.0227	U	0.023	< 0.0227	U	0.023	< 0.0227	U	0.023	< 0.0227	U	0.0227
PA-S20	2/13/2014	N	4	6	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.0214
PA-S20	2/13/2014	N	6	8	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.0193
PA-S20	2/13/2014	N	8	12	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019
PA-S20	2/13/2014	FD	12	16	< 0.0194	U	0.019	< 0.0194	U	0.019	< 0.0194	U	0.019	< 0.0194	U	0.019	< 0.0194	U	0.019	< 0.0194	U	0.019	< 0.0194	U	0.019	< 0.0194	U	0.0194
PA-S20	2/13/2014	N	12	16	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.0184
PA-S21	2/13/2014	N	0	2	< 0.102	U	0.102	< 0.102	U	0.102	< 0.102	U	0.102	< 0.102	U	0.102	< 0.102	U	0.102	1.2		0.102	< 0.102	U	0.102	1.2		0.102
PA-S21	2/13/2014	N	2	4	< 0.0206	U	0.021	< 0.0206	U	0.021	< 0.0206	U	0.021	< 0.0206	U	0.021	< 0.0206	U	0.021	0.0584		0.021	< 0.0206	U	0.021	0.0584		0.0206
PA-S21	2/13/2014	N	4	6	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	0.0502		0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	0.0502		0.0192
PA-S21	2/13/2014	N	6	8	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.019	< 0.0189	U	0.0189
PA-S22	2/13/2014	N	0	2	< 0.0179	U	0.018	< 0.0179	U	0.018	< 0.0179	U	0.018	< 0.0179	U	0.018	< 0.0179	U	0.018	0.02		0.018	< 0.0179	U	0.018	0.02		0.0179
PA-S33	4/1/2014	N	0	2	< 0.0895	U	0.09	< 0.0895	U	0.09	< 0.0895	U	0.09	< 0.0895	U	0.09	< 0.0895	U	0.09	0.47		0.09	< 0.0895	U	0.09	0.47		0.0895
PA-S33	4/1/2014	N	2	4	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.0184
PA-S33	4/1/2014	N	4	6	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	< 0.0184	U	0.018	0.0326		0.018	0.0614		0.018	< 0.0184	U	0.018	0.094		0.0184
PA-S33	4/1/2014	N	6	8	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	0.0277		0.0193
PA-S33	4/1/2014	N	8	10	< 0.0196	U	0.02	< 0.0196	U	0.02	< 0.0196	U	0.02	< 0.0196	U	0.02	< 0.0196	U	0.02	0.15		0.02	< 0.0196	U	0.02	0.15		0.0196
PA-S34	4/1/2014	N	0	2	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.0181
PA-S34	4/1/2014	N	2	4	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.0181
PA-S34	4/1/2014	N	4	6	< 0.0182	U	0.018	< 0.0182	U	0.018	< 0.0182	U	0.018	< 0.0182	U	0.018	< 0.0182	U	0.018	0.0479		0.018	< 0.0182	U	0.018	0.0479		0.0182
PA-S34	4/1/2014	N	6	8	< 0.0196	U	0.02	< 0.0196	U	0.02	< 0.0196	U	0.02	< 0.0196	U	0.02	< 0.0196	U	0.02	< 0.0196	U	0.02	< 0.0196	U	0.02	0.0237		0.0196
PA-S41	4/11/2014	N	0	2	< 1.8	U	1.8	< 1.8	U	1.8	< 1.8	U	1.8	< 1.8	U	1.8	23.5		1.8	22.7		1.8	< 1.8	U	1.8	**46.2**		1.8
PA-S41	4/11/2014	N	2	4	< 0.588	U	0.588	< 0.588	U	0.588	< 0.588	U	0.588	< 0.588	U	0.588	< 0.588	U	0.588	4.43		0.588	< 0.588	U	0.588	4.43		0.588
PA-S42	4/11/2014	N	0	2	< 17.3	U	17.3	< 17.3	U	17.3	< 17.3	U	17.3	< 17.3	U	17.3	< 17.3	U	17.3	**66.3**		17.3	< 17.3	U	17.3	**66.3**		17.3
PA-S42	4/11/2014	N	2	4	< 2.12	U	2.12	< 2.12	U	2.12	< 2.12	U	2.12	< 2.12	U	2.12	12.7		2.12	20.3		2.12	< 2.12	U	2.12	33		2.12
Test Pit Locations																												
PATP-2	3/13/2014	N	0	2	< 0.436	U	0.436	< 0.436	U	0.436	< 0.436	U	0.436	< 0.436	U	0.436	< 0.436	U	0.436	4.32		0.436	< 0.436	U	0.436	4.32		0.436
PATP-2	3/13/2014	N	2	4	< 0.0208	U	0.021	< 0.0208	U	0.021	< 0.0208	U	0.021	< 0.0208	U	0.021	< 0.0208	U	0.021	0.124		0.021	< 0.0208	U	0.021	0.124		0.0208
PATP-2	3/13/2014	N	4	6	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021	< 0.021	U	0.021
PATP-2	3/13/2014	N	6	8	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022
PATP-4	3/25/2014	N	0	2	< 0.483	U	0.483	< 0.483	U	0.483	< 0.483	U	0.483	< 0.483	U	0.483	< 0.483	U	0.483	3.1		0.483	< 0.483	U	0.483	3.1		0.483
PATP-4	3/25/2014	N	2	4	< 1.02	U	1.02	< 1.02	U	1.02	< 1.02	U	1.02	< 1.02	U	1.02	< 1.02	U	1.02	4.25		1.02	< 1.02	U	1.02	4.25		1.02
PATP-5	3/25/2014	N	0	2	< 0.459	U	0.459	< 0.459	U	0.459	< 0.459	U	0.459	< 0.459	U	0.459	< 0.459	U	0.459	2.88		0.459	< 0.459	U	0.459	2.88		0.459
PATP-5	3/25/2014	N	2	4	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	0.0262		0.0214
PATP-6	3/25/2014	N	0	2	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	1.59		0.202	< 0.202	U	0.202	1.59		0.202
PATP-6	3/25/2014	N	2	4	< 0.409	U	0.409	< 0.409	U	0.409	< 0.409	U	0.409	< 0.409	U	0.409	2.02		0.409	3.01		0.409	< 0.409	U	0.409	5.02		0.409
PATP-7	3/25/2014	N	0	2	< 1.79	U	1.79	< 1.79	U	1.79	< 1.79	U	1.79	< 1.79	U	1.79	10.9		1.79	13.2		1.79	< 1.79	U	1.79	24.2		1.79
PATP-7	3/25/2014	N	2	4	< 1.05	U	1.05	< 1.05	U	1.05	< 1.05	U	1.05	< 1.05	U	1.05	7.72		1.05	9.4		1.05	< 1.05	U	1.05	17.1		1.05

Table 1-2
Pre-Excavation Delineation PCB Soil Results
Risk-Based PCB Cleanup Plan - South Plant
Trinity Industries, Inc.
Hempfield Township, Pennsylvania

				Analytic Method	SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082		
				Parameter	Aroclor 1016			Aroclor 1221			Aroclor 1232			Aroclor 1242			Aroclor 1248			Aroclor 1254			Aroclor 1260			Total PCBs*		
				CAS #	12674-11-2			11104-28-2			11141-16-5			53469-21-9			12672-29-6			11097-69-1			11096-82-5			1336-36-3		
				Units	mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
				Non-Residential Direct Contact MSCs 0-2 ft	200			40			40			40			40			40			40			40		
				Non-Residential Direct Contact MSCs 2-15 ft	10,000			10,000			10,000			10,000			10,000			10,000			190,000			10,000		
				Non-Residential Soil to GW MSCs,Used Aquifer TDS<=2500 MAX	200			0.63			0.5			16			62			260			590			62		
Sample ID	Sample Date	Sample Type Code	Start Depth (ft)	End Depth (ft)	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL
PATP-7	3/25/2014	FD	2	4	< 1.14	U	1.14	< 1.14	U	1.14	< 1.14	U	1.14	< 1.14	U	1.14	9.73		1.14	11.9		1.14	< 1.14	U	1.14	21.6		1.14
PATP-8	3/25/2014	N	0	2	< 1.88	U	1.88	< 1.88	U	1.88	< 1.88	U	1.88	< 1.88	U	1.88	19.8		1.88	24.7		1.88	< 1.88	U	1.88	**44.5**		1.88
PATP-8	3/25/2014	FD	0	2	< 3.82	U	3.82	< 3.82	U	3.82	< 3.82	U	3.82	< 3.82	U	3.82	27.1		3.82	33.9		3.82	< 3.82	U	3.82	**61**		3.82
PATP-8	3/25/2014	N	2	4	< 0.462	U	0.462	< 0.462	U	0.462	< 0.462	U	0.462	< 0.462	U	0.462	2.57		0.462	3.55		0.462	< 0.462	U	0.462	6.13		0.462
PATP-9	3/25/2014	N	0	2	< 0.0209	U	0.021	< 0.0209	U	0.021	< 0.0209	U	0.021	< 0.0209	U	0.021	< 0.0209	U	0.021	0.0294		0.021	< 0.0209	U	0.021	0.0294		0.0209
PATP-9	3/25/2014	FD	0	2	< 0.0208	U	0.021	< 0.0208	U	0.021	< 0.0208	U	0.021	< 0.0208	U	0.021	< 0.0208	U	0.021	0.0316		0.021	< 0.0208	U	0.021	0.0316		0.0208
PATP-9	3/25/2014	N	2	4	< 0.0213	U	0.021	< 0.0213	U	0.021	< 0.0213	U	0.021	< 0.0213	U	0.021	< 0.0213	U	0.021	0.0504		0.021	< 0.0213	U	0.021	0.0504		0.0213
PATP-10	3/26/2014	N	0	2	< 0.103	U	0.103	< 0.103	U	0.103	< 0.103	U	0.103	< 0.103	U	0.103	< 0.103	U	0.103	0.729		0.103	< 0.103	U	0.103	0.729		0.103
PATP-10	3/26/2014	N	2	4	< 0.0207	U	0.021	< 0.0207	U	0.021	< 0.0207	U	0.021	< 0.0207	U	0.021	< 0.0207	U	0.021	< 0.0207	U	0.021	< 0.0207	U	0.021	< 0.0207	U	0.0207
PATP-10	3/26/2014	FD	2	4	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.0203
PATP-11	3/26/2014	N	0	2	< 1.17	U	1.17	< 1.17	U	1.17	< 1.17	U	1.17	< 1.17	U	1.17	6.43		1.17	8.05		1.17	< 1.17	U	1.17	14.5		1.17
PATP-11	3/26/2014	N	2	4	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022	0.251		0.022	0.305		0.022	< 0.022	U	0.022	0.556		0.022

4	Greater than Soil to Groundwater MSC
65	Greater than Direct Contact MSC

Abbreviations
DC : direct contact
MSCs : Pennsylvania Act 2 medium specific concentrations
GW : groundwater
ft : feet
TDS : total dissolved solids
N : normal sample
FD : field duplicate sample
U : non-detect result
UJ : estimated non-detect result
J : estimated detected result
LQual : laboratory qualifiers
RDL : reporting detection limit
* : lowest MSCs for detected Aroclors

Table 1-3
Post-Excavation Confirmation PCB Soil Results for IA-1E
Risk-Based PCB Cleanup Plan - South Plant
Trinity Industries, Inc.
Hempfield Township, Pennsylvania

Analytic Method					SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082		
Parameter					Aroclor 1016			Aroclor 1221			Aroclor 1232			Aroclor 1242			Aroclor 1248			Aroclor 1254			Aroclor 1260			Total PCBs*		
CAS #					12674-11-2			11104-28-2			11141-16-5			53469-21-9			12672-29-6			11097-69-1			11096-82-5			1336-36-3		
Units					mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
Non-Residential Direct Contact MSCs 0-2 ft					200			40			40			40			40			40			40			40		
Non-Residential Direct Contact MSCs 2-15 ft					10,000			10,000			10,000			10,000			10,000			10,000			190,000			10,000		
Non-Residential Soil to GW MSCs,Used Aquifer TDS<=2500 MAX					200			0.63			0.5			16			62			260			590			260		
Sample ID	Sample Date	Sample Type Code	Start Depth (ft)	End Depth (ft)	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL
IA1E-F01	5/21/2014	N	2	2	< 0.953	U	0.953	< 0.953	U	0.953	< 0.953	U	0.953	< 0.953	U	0.953	< 0.953	U	0.953	13.6		0.953	< 0.953	U	0.953	13.6		0.953
IA1E-F02	5/21/2014	FD	2	2	< 0.969	U	0.969	< 0.969	U	0.969	< 0.969	U	0.969	< 0.969	U	0.969	< 0.969	U	0.969	12.5		0.969	< 0.969	U	0.969	12.5		0.969
IA1E-F02	5/21/2014	N	2	2	< 1.03	U	1.03	< 1.03	U	1.03	< 1.03	U	1.03	< 1.03	U	1.03	< 1.03	U	1.03	15.2		1.03	< 1.03	U	1.03	15.2		1.03
IA1E-F03	5/21/2014	N	2	2	< 0.967	U	0.967	< 0.967	U	0.967	< 0.967	U	0.967	< 0.967	U	0.967	< 0.967	U	0.967	17		0.967	< 0.967	U	0.967	17		0.967
IA1E-W01	5/21/2014	N	1	1	< 0.972	U	0.972	< 0.972	U	0.972	< 0.972	U	0.972	< 0.972	U	0.972	< 0.972	U	0.972	14		0.972	< 0.972	U	0.972	14		0.972
IA1E-W02	5/21/2014	N	1	1	< 0.943	U	0.943	< 0.943	U	0.943	< 0.943	U	0.943	< 0.943	U	0.943	< 0.943	U	0.943	10.7		0.943	< 0.943	U	0.943	10.7		0.943
IA1E-W03	5/21/2014	N	1	1	< 0.914	U	0.914	< 0.914	U	0.914	< 0.914	U	0.914	< 0.914	U	0.914	< 0.914	U	0.914	14.1		0.914	< 0.914	U	0.914	14.1		0.914
IA1E-W04	5/21/2014	N	1	1	< 0.955	U	0.955	< 0.955	U	0.955	< 0.955	U	0.955	< 0.955	U	0.955	< 0.955	U	0.955	8.98		0.955	< 0.955	U	0.955	8.98		0.955

4	Greater than Soil to Groundwater MSC
65	Greater than Direct Contact MSC

Abbreviations
DC : direct contact
MSCs : Pennsylvania Act 2 medium specific concentrations
GW : groundwater
ft : feet
TDS : total dissolved solids
N : normal sample
FD : field duplicate sample
U : non-detect result
UJ : estimated non-detect result
J : estimated detected result
LQual : laboratory qualifiers
RDL : reporting detection limit
* : lowest MSCs for detected Aroclors

Table 1-4
Pre-Excavation and Post-Excavation PCB Soil Results Sorted by Stockpile
Risk-Based PCB Cleanup Plan - South Plant
Trinity Industries, Inc.
Hempfield Township, Pennsylvania

Analytic Method					SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082		
Parameter					Aroclor 1016			Aroclor 1221			Aroclor 1232			Aroclor 1242			Aroclor 1248			Aroclor 1254			Aroclor 1260			Total PCBs*		
CAS #					12674-11-2			11104-28-2			11141-16-5			53469-21-9			12672-29-6			11097-69-1			11096-82-5			1336-36-3		
Units					mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
Non-Residential Direct Contact MSCs 0-2 ft					200			40			40			40			40			40			40			40		
Non-Residential Direct Contact MSCs 2-15 ft					10,000			10,000			10,000			10,000			10,000			10,000			190,000			10,000		
Non-Residential Soil to GW MSCs,Used Aquifer TDS<=2500 MAX					200			0.63			0.5			16			62			260			590			62		
Sample ID	Sample Date	Sample Type Code	Start Depth (ft)	End Depth (ft)	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL
Soils in PCBs Greater Than 50 mg/kg Soil Stockpile (0 - 2 ft bgs PCB Area)								**Quantity = 75 tons (Transported Off-Site to Wayne Disposal on July 14, 2014)**																				
Waste Characterization Samples - Composite Samples																												
PA-WC1_00_04	2/6/2014	N	0	4	< 9.68	U	9.68	< 9.68	U	9.68	< 9.68	U	9.68	< 9.68	U	9.68	< 9.68	U	9.68	**40.5**		9.68	< 9.68	U	9.68	**40.5**		9.68
In-Place Soil Samples - Single Point Samples																												
PA-S10	2/6/2014	N	0	2	< 3.7	U	3.7	< 3.7	U	3.7	< 3.7	U	3.7	< 3.7	U	3.7	< 3.7	U	3.7	**56**		3.7	< 3.7	U	3.7	**56**		3.7
PA-S10	2/6/2014	FD	0	2	< 9.19	U	9.19	< 9.19	U	9.19	< 9.19	U	9.19	< 9.19	U	9.19	< 9.19	U	9.19	**73.2**		9.19	< 9.19	U	9.19	**73.2**		9.19
PA-S11	2/5/2014	N	0	2	< 0.929	U	0.929	< 0.929	U	0.929	< 0.929	U	0.929	< 0.929	U	0.929	< 0.929	U	0.929	6.05		0.929	< 0.929	U	0.929	6.05		0.929
PA-S41	4/11/2014	N	0	2	< 1.8	U	1.8	< 1.8	U	1.8	< 1.8	U	1.8	< 1.8	U	1.8	23.5		1.8	22.7		1.8	< 1.8	U	1.8	**46.2**		1.8
PA-S42	4/11/2014	N	0	2	< 17.3	U	17.3	< 17.3	U	17.3	< 17.3	U	17.3	< 17.3	U	17.3	< 17.3	U	17.3	**66.3**		17.3	< 17.3	U	17.3	**66.3**		17.3
PATP-4	3/25/2014	N	0	2	< 0.483	U	0.483	< 0.483	U	0.483	< 0.483	U	0.483	< 0.483	U	0.483	< 0.483	U	0.483	3.1		0.483	< 0.483	U	0.483	3.1		0.483
PATP-5	3/25/2014	N	0	2	< 0.459	U	0.459	< 0.459	U	0.459	< 0.459	U	0.459	< 0.459	U	0.459	< 0.459	U	0.459	2.88		0.459	< 0.459	U	0.459	2.88		0.459
PATP-6	3/25/2014	N	0	2	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	1.59		0.202	< 0.202	U	0.202	1.59		0.202
PATP-7	3/25/2014	N	0	2	< 1.79	U	1.79	< 1.79	U	1.79	< 1.79	U	1.79	< 1.79	U	1.79	10.9		1.79	13.2		1.79	< 1.79	U	1.79	24.2		1.79
PATP-8	3/25/2014	N	0	2	< 1.88	U	1.88	< 1.88	U	1.88	< 1.88	U	1.88	< 1.88	U	1.88	19.8		1.88	24.7		1.88	< 1.88	U	1.88	**44.5**		1.88
PATP-8	3/25/2014	FD	0	2	< 3.82	U	3.82	< 3.82	U	3.82	< 3.82	U	3.82	< 3.82	U	3.82	27.1		3.82	33.9		3.82	< 3.82	U	3.82	**61**		3.82
Soils in Pre-Conditioned Soil Stockpile (0 - 4 ft bgs VOC Area)								**Quantity = 850 tons (Total On-Site)**																				
Waste Characterization Samples - Composite																												
IA1F-L02	6/16/2014	N	0	0	< 0.397	U	0.397	< 0.397	U	0.397	< 0.397	U	0.397	< 0.397	U	0.397	< 0.397	U	0.397	4.99		0.397	< 0.397	U	0.397	4.99		0.397
IA1F-WC02	7/18/2014	N	0	0	<0.957	U	0.957	<0.957	U	0.957	<0.957	U	0.957	<0.957	U	0.957	<0.957	U	0.957	9.93		0.957	<0.957	U	0.957	9.93		0.957
In-Place Soil Samples - Grab Samples																												
IA1E-F01	5/21/2014	N	2	2	< 0.953	U	0.953	< 0.953	U	0.953	< 0.953	U	0.953	< 0.953	U	0.953	< 0.953	U	0.953	13.6		0.953	< 0.953	U	0.953	13.6		0.953
IA1E-F02	5/21/2014	N	2	2	< 1.03	U	1.03	< 1.03	U	1.03	< 1.03	U	1.03	< 1.03	U	1.03	< 1.03	U	1.03	15.2		1.03	< 1.03	U	1.03	15.2		1.03
IA1E-F02	5/21/2014	FD	2	2	< 0.969	U	0.969	< 0.969	U	0.969	< 0.969	U	0.969	< 0.969	U	0.969	< 0.969	U	0.969	12.5		0.969	< 0.969	U	0.969	12.5		0.969
IA1E-F03	5/21/2014	N	2	2	< 0.967	U	0.967	< 0.967	U	0.967	< 0.967	U	0.967	< 0.967	U	0.967	< 0.967	U	0.967	17		0.967	< 0.967	U	0.967	17		0.967
IA1E-W01	5/21/2014	N	1	1	< 0.972	U	0.972	< 0.972	U	0.972	< 0.972	U	0.972	< 0.972	U	0.972	< 0.972	U	0.972	14		0.972	< 0.972	U	0.972	14		0.972
IA1E-W02	5/21/2014	N	1	1	< 0.943	U	0.943	< 0.943	U	0.943	< 0.943	U	0.943	< 0.943	U	0.943	< 0.943	U	0.943	10.7		0.943	< 0.943	U	0.943	10.7		0.943
IA1E-W03	5/21/2014	N	1	1	< 0.914	U	0.914	< 0.914	U	0.914	< 0.914	U	0.914	< 0.914	U	0.914	< 0.914	U	0.914	14.1		0.914	< 0.914	U	0.914	14.1		0.914
IA1E-W04	5/21/2014	N	1	1	< 0.955	U	0.955	< 0.955	U	0.955	< 0.955	U	0.955	< 0.955	U	0.955	< 0.955	U	0.955	8.98		0.955	< 0.955	U	0.955	8.98		0.955
PA-S07	2/7/2014	N	0	2	< 0.895	U	0.895	< 0.895	U	0.895	< 0.895	U	0.895	< 0.895	U	0.895	< 0.895	U	0.895	12.2		0.895	< 0.895	U	0.895	12.2		0.895
PA-S08	2/7/2014	N	0	2	< 0.0957	U	0.096	< 0.0957	U	0.096	< 0.0957	U	0.096	< 0.0957	U	0.096	< 0.0957	U	0.096	0.684		0.096	< 0.0957	U	0.096	0.684		0.0957
PA-S10	2/6/2014	N	2	4	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	< 0.202	U	0.202	1.76		0.202	2.58		0.202	< 0.202	U	0.202	4.34		0.202
PA-S11	2/5/2014	N	2	4	< 9.05	U	9.05	< 9.05	U	9.05	< 9.05	U	9.05	< 9.05	U	9.05	< 9.05	U	9.05	32.9		9.05	< 9.05	U	9.05	32.9		9.05
PA-S13	2/5/2014	N	0	2	< 0.915	U	0.915	< 0.915	U	0.915	< 0.915	U	0.915	< 0.915	U	0.915	< 0.915	U	0.915	10.4		0.915	< 0.915	U	0.915	10.4		0.915
PA-S15	2/5/2014	N	0	2	< 0.947	U	0.947	< 0.947	U	0.947	< 0.947	U	0.947	< 0.947	U	0.947	< 0.947	U	0.947	13.5		0.947	< 0.947	U	0.947	13.5		0.947
PA-S15	2/5/2014	N	2	4	< 0.0216	U	0.022	< 0.0216	U	0.022	< 0.0216	U	0.022	< 0.0216	U	0.022	0.202		0.022	0.256		0.022	< 0.0216	U	0.022	0.457		0.0216
PA-S16	2/6/2014	N	2	4	< 0.102	U	0.102	< 0.102	U	0.102	< 0.102	U	0.102	< 0.102	U	0.102	0.705		0.102	1.23		0.102	< 0.102	U	0.102	1.94		0.102
PA-S41	4/11/2014	N	2	4	< 0.588	U	0.588	< 0.588	U	0.588	< 0.588	U	0.588	< 0.588	U	0.588	< 0.588	U	0.588	4.43		0.588	< 0.588	U	0.588	4.43		0.588
PA-S42	4/11/2014	N	2	4	< 2.12	U	2.12	< 2.12	U	2.12	< 2.12	U	2.12	< 2.12	U	2.12	12.7		2.12	20.3		2.12	< 2.12	U	2.12	33		2.12

Table 1-4
Pre-Excavation and Post-Excavation PCB Soil Results Sorted by Stockpile
Risk-Based PCB Cleanup Plan - South Plant
Trinity Industries, Inc.
Hempfield Township, Pennsylvania

Analytic Method					SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082			SW-8082		
Parameter					Aroclor 1016			Aroclor 1221			Aroclor 1232			Aroclor 1242			Aroclor 1248			Aroclor 1254			Aroclor 1260			Total PCBs*		
CAS #					12674-11-2			11104-28-2			11141-16-5			53469-21-9			12672-29-6			11097-69-1			11096-82-5			1336-36-3		
Units					mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg			mg/kg		
Non-Residential Direct Contact MSCs 0-2 ft					200			40			40			40			40			40			40			40		
Non-Residential Direct Contact MSCs 2-15 ft					10,000			10,000			10,000			10,000			10,000			10,000			190,000			10,000		
Non-Residential Soil to GW MSCs,Used Aquifer TDS<=2500 MAX					200			0.63			0.5			16			62			260			590			62		
Sample ID	Sample Date	Sample Type Code	Start Depth (ft)	End Depth (ft)	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL	Result	LQual	RDL
PATP-11	3/26/2014	N	0	2	< 1.17	U	1.17	< 1.17	U	1.17	< 1.17	U	1.17	< 1.17	U	1.17	6.43		1.17	8.05		1.17	< 1.17	U	1.17	14.5		1.17
PATP-11	3/26/2014	N	2	4	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022	< 0.022	U	0.022	0.251		0.022	0.305		0.022	< 0.022	U	0.022	0.556		0.022
PATP-4	3/25/2014	N	2	4	< 1.02	U	1.02	< 1.02	U	1.02	< 1.02	U	1.02	< 1.02	U	1.02	< 1.02	U	1.02	4.25		1.02	< 1.02	U	1.02	4.25		1.02
PATP-5	3/25/2014	N	2	4	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	< 0.0214	U	0.021	0.0262		0.0214
PATP-6	3/25/2014	N	2	4	< 0.409	U	0.409	< 0.409	U	0.409	< 0.409	U	0.409	< 0.409	U	0.409	2.02		0.409	3.01		0.409	< 0.409	U	0.409	5.02		0.409
PATP-7	3/25/2014	N	2	4	< 1.05	U	1.05	< 1.05	U	1.05	< 1.05	U	1.05	< 1.05	U	1.05	7.72		1.05	9.4		1.05	< 1.05	U	1.05	17.1		1.05
PATP-7	3/25/2014	FD	2	4	< 1.14	U	1.14	< 1.14	U	1.14	< 1.14	U	1.14	< 1.14	U	1.14	9.73		1.14	11.9		1.14	< 1.14	U	1.14	21.6		1.14
PATP-8	3/25/2014	N	2	4	< 0.462	U	0.462	< 0.462	U	0.462	< 0.462	U	0.462	< 0.462	U	0.462	2.57		0.462	3.55		0.462	< 0.462	U	0.462	6.13		0.462
Soils in Un-Conditioned Soil Stockpile (4 - 12 ft bgs VOC Area)								**Quantity = 800 tons (300 tons Transported Off-Site to Carbon Limestone Landfill and 500 tons Stockpiled On-Site)**																				
Waste Characterization Samples - Composite																											
IA1F-WC01	7/18/2014	N	0	0	<0.382	U	0.382	<0.382	U	0.382	<0.382	U	0.382	<0.382	U	0.382	<0.382	U	0.382	3.68		0.382	<0.382	U	0.382	3.68		0.382
In-Place Soil Samples - Grab Samples																											
PA-S09	2/6/2014	N	8	12	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.019	< 0.0188	U	0.0188
PA-S10	2/6/2014	N	4	6	< 0.0202	U	0.02	< 0.0202	U	0.02	< 0.0202	U	0.02	< 0.0202	U	0.02	< 0.0202	U	0.02	0.184		0.02	< 0.0202	U	0.02	0.184		0.0202
PA-S10	2/6/2014	N	6	8	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.02	< 0.0204	U	0.0204
PA-S10	2/6/2014	N	8	12	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.0185
PA-S11	2/5/2014	N	4	6	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	2.89		0.418	< 0.418	U	0.418	2.89		0.418
PA-S11	2/5/2014	N	6	8	< 0.0201	U	0.02	< 0.0201	U	0.02	< 0.0201	U	0.02	< 0.0201	U	0.02	< 0.0201	U	0.02	0.024		0.02	< 0.0201	U	0.02	0.024		0.0201
PA-S11	2/5/2014	N	8	10	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	< 0.418	U	0.418	2.37		0.418	< 0.418	U	0.418	2.37		0.418
PA-S11	2/5/2014	N	10	12	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.018	< 0.0183	U	0.018	0.019		0.018	0.0264		0.018	< 0.0183	U	0.018	0.0454		0.0183
PA-S12	2/5/2014	N	6	8	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02	< 0.02	U	0.02
PA-S12	2/5/2014	N	8	12	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	< 0.019	U	0.019	0.0263		0.019
PA-S13	2/5/2014	N	4	6	< 0.0986	U	0.099	< 0.0986	U	0.099	< 0.0986	U	0.099	< 0.0986	U	0.099	< 0.0986	U	0.099	0.639		0.099	< 0.0986	U	0.099	0.639		0.0986
PA-S13	2/5/2014	N	8	12	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.021	< 0.0205	U	0.0205
PA-S14	2/5/2014	N	8	12	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	< 0.0181	U	0.018	0.356		0.018	< 0.0181	U	0.018	0.356		0.0181
PA-S15	2/5/2014	N	4	6	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	< 0.0203	U	0.02	0.116		0.02	< 0.0203	U	0.02	0.116		0.0203
PA-S15	2/5/2014	N	6	8	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.019	< 0.0192	U	0.0192
PA-S15	2/5/2014	N	8	12	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.019	< 0.0185	U	0.0185
PA-S16	2/6/2014	N	4	6	< 0.0222	U	0.022	< 0.0222	U	0.022	< 0.0222	U	0.022	< 0.0222	U	0.022	< 0.0222	U	0.022	0.222		0.022	< 0.0222	U	0.022	0.222		0.0222
PA-S16	2/6/2014	N	6	8	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.019	< 0.0193	U	0.0193

4	Greater than Soil to Groundwater MSC	4 foot excavation area	10 ft excavation area	Four-point composite sample from in-place soils
65	Greater than Direct Contact MSC	8 foot excavation area	Samples outside excavation areas	Ten-point composite sample from stockpile

Abbreviations

DC : direct contact
MSCs : Pennsylvania Act 2 medium specific concentrations
GW : groundwater
ft : feet
TDS : total dissolved solids
N : normal sample
* : lowest MSCs for detected Aroclors
FD : field duplicate sample
U : non-detect result
UJ : estimated non-detect result
J : estimated detected result
LQual : laboratory qualifiers
RDL : reporting detection limit

Table 5-1-1. Industrial Worker Preliminary Remediation Goals - Soil Ingestion

Parameter	Symbol	Value	Unit	Equation	Source
Averaging Time, Carcinogenic	AT_c	25,550	days	--	USEPA 1991
Averaging Time, Non-carcinogenic	AT_{nc}	9,125	days	--	USEPA 1991, ED x 365 days/year
Body Weight, Adult	BW_a	80	kg	--	USEPA 2011
Oral Cancer Slope Factor	CSF_o	Chemical Specific	$(mg/kg\text{-}day)^{-1}$	--	USEPA 2014
Exposure Duration, Industrial Worker	ED_w	25	years	--	USEPA 2011
Exposure Frequency, Industrial Worker	EF_w	250	days/year	--	USEPA 2011
Soil Ingestion Rate, Industrial Worker	IRS_w	100	mg/day	--	USEPA 2011
Oral Reference Dose	RfD_o	Chemical Specific	mg/kg-day	--	USEPA 2014
Incidental Ingestion Soil Cleanup Level - Carcinogeni	--	Chemical Specific	mg/kg	Cleanup Level = (TR x AT_c x BW_a)/(EF_w x ED_w x CSF_o x IRS_w x 0.000001 mg/kg)	USEPA 2014
Incidental Ingestion Soil Cleanup Level - Non-carcino	--	Chemical Specific	mg/kg	Cleanup Level = (THQ x AT_{nc} x BW_a)/(EF_w x ED_w x (1/RfD_o) x IRS_w x 0.000001 mg/kg)	USEPA 2014
Target Hazard Quotient	THQ	1.0	unitless	--	USEPA, 1989
Target Cancer Risk	TR	1.0E-06	unitless	--	USEPA, 1989

References

USEPA 1991. Human health evaluation manual, supplemental guidance: "Standard default exposure factors". OSWER Directive 9285.6-03
USEPA 2011. Exposure Factors Handbook
USEPA 2014. USEPA Regional Screening Level Tables. Dated May of 2014

Analyte	CAS	Oral Reface Dose (RfD_o)[1]		Oral Cancer Slope Factor (CSF_o)[1]		Non-carcinogenic Soil Ingestion Soil Cleanup Level (mg/kg)	Carcinogenic Soil Ingestion Soil Cleanup Level (mg/kg)
		Value (mg/kg-day)	Reference	Value $(mg/kg\text{-}day)^{-1}$	Reference		
Aroclor 1248	12672-29-6	--	--	2.0	S	--	1.6
Aroclor 1254	11097-69-1	0.000020	I	2.0	S	23	1.6
Aroclor 1262[2]	37324-23-5	--	--	2.0	S	--	1.6

Notes

1. Values taken from the USEPA Regional Screening Level Tables, Dated May 2014
2. Due to a lack of appropriate toxicity values for Aroclor 1262, surrogate toxicity values were based on "Polychlorinated Biphenyls (high risk)" as found in the May 2014, USEPA RSL tables

NA = Not Available
I = Integrated Risk Information System value
S = Surrogate value taken from "High Risk" PCBs for Aroclors 1248, 1254, 1260, and 1262 in accordance with the USEPA RSL guidance.

Table 5-1-2. Industrial Worker Preliminary Remediation Goals - Inhalation

Parameter	Symbol	Value	Unit	Equation	Source
Averaging Time, Carcinogenic	AT_c	25,550	days	--	USEPA 1991
Averaging Time, Non-carcinogenic	AT_{nc}	9,125	days	--	USEPA 1991, ED x 365 days/year
Conversion Factor 1	CF1	1/24	days/hour	--	24 hours per day
Conversion Factor 2	CF2	1,000	µg/mg	--	1000 micrograms per milligram
Exposure Duration, Industrial Worker	ED_w	25	years	--	USEPA 2011
Exposure Frequency, Industrial Worker	EF_w	250	days/year	--	USEPA 2011
Exposure Time	ET_w	8.0	hours/day	--	USEPA 2011
Inhalation Unit Risk	IUR	Chemical-Specific	$(\mu g/m^3)^{-1}$	--	USEPA, 2014
Reference Concentration	RfC	Chemical-Specific	mg/m^3	--	USEPA, 2014
Inhalation of Dust and Volatiles Soil Cleanup Level - Carcinogenic	--	Chemical-Specific	mg/kg	Cleanup Level = (TR x AT_c)/(EF_w x ED_w x ET_w x CF1 x CF2 x IUR x (1/PEF))	USEPA, 2014
Inhalation of Dust and Volatiles Soil Cleanup Level - Non-carcinogenic	--	Chemical-Specific	mg/kg	Cleanup Level = (THQ x AT_{nc})/(EF_w x ED_w x ET_w x CF1 x (1/RfC) x (1/PEF))	USEPA, 2014
Target Hazard Quotient	THQ	1.0	unitless	--	USEPA, 1989
Target Cancer Risk	TR	1.0E-06	unitless	--	USEPA, 1989
Particulate Emission Factor, Wind	PEF_w	6.3E+08	m^3/kg	--	See Table A-1

References

USEPA 1991. Human health evaluation manual, supplemental guidance: "Standard default exposure factors". OSWER Directive 9285.6-03
USEPA 2011. USEPA Exposure Factors Handbook
USEPA 2014. USEPA Regional Screening Level Tables. Dated May of 2014

Analyte	CAS	Volatile[1]	Inhalation Reference Concentration (RfC)[1]		Inhalation Unit Risk (IUR)[1]		Non-carcinogenic Soil Inhalation Soil Cleanup Level (mg/kg)	Carcinogenic Soil Inhalation Soil Cleanup Level (mg/kg)
			Value (mg/m^3)	Reference	Value $(\mu g/m^3)^{-1}$	Reference		
Aroclor 1248	12672-29-6	No	--	--	0.00057	S	--	1.36E+04
Aroclor 1254	11097-69-1	No	--	--	0.00057	S	--	1.36E+04
Aroclor 1262[2]	37324-23-5	No	--	--	0.00057	S	--	1.36E+04

Notes

1. Values taken from the USEPA Regional Screening Level Tables, Dated May 2014
2. Due to a lack of appropriate toxicity values for Aroclor 1262, surrogate toxicity values were based on "Polychlorinated Biphenyls (high risk)" as found in the May 2014, USEPA RSL tables

NA = Not Available
I = Integrated Risk Information System value
S = Surrogate value taken from "High Risk" PCBs for Aroclors 1248, 1254, 1260, and 1262 in accordance with the USEPA RSL guidance.

Table 5-1-3. Industrial Worker Preliminary Remediation Goals - Dermal Contact with Soil

Parameter	Symbol	Value	Unit	Equation	Source
Fraction of contaminant absorbed dermally from soil	ABS_d	Chemical Specific	Unitless	--	USEPA 2014
Adherence Factor	AF_w	0.12	mg/cm^2	--	USEPA 2011
Averaging Time, Carcinogenic	AT_c	25,550	days	--	USEPA 2011
Averaging Time, Non-carcinogenic	AT_{nc}	9,125	days	--	USEPA 1991, ED x 365 days/year
Body Weight, Adult	BW_a	80	kg	--	USEPA 2011
Oral Cancer Slope Factor	CSF_o	Chemical Specific	$(mg/kg\text{-}day)^{-1}$	--	USEPA 2014
Exposure Duration, Industrial Worker	ED_w	25	years	--	USEPA 2011
Exposure Frequency, Industrial Worker	EF_w	250	days/year	--	USEPA 2011
Fraction of contaminant absorbed in gastrointestinal tract	GIABS	Chemical Specific	Unitless	--	USEPA 2014
Oral Reference Dose	RfD_o	Chemical Specific	mg/kg-day	--	USEPA 2014
Surface Area	SA_w	3,470	cm^2	--	USEPA 2011
Incidental Ingestion Soil Cleanup Level - Carcinogenic	--	Chemical Specific	mg/kg	Cleanup Level = (TR x AT_c x BW_a)/(EF_w x ED_w x (CSF_o/GIABS) x SA_w x AF_w x ABS_d x 0.000001 mg/kg)	USEPA 2014
Incidental Ingestion Soil Cleanup Level - Non-carcinogenic	--	Chemical Specific	mg/kg	Cleanup Level = (THQ x AT_{nc} x BW_a)/(EF_w x ED_w x (1/(RfD_o x GIABS)) x SA_w x AF_w x ABS_d x 0.000001 mg/kg)	USEPA 2014
Target Hazard Quotient	THQ	1.0	unitless	--	USEPA, 1989
Target Cancer Risk	TR	1.00E-06	unitless	--	USEPA, 1989

References

USEPA 1991. Human health evaluation manual, supplemental guidance: "Standard default exposure factors". OSWER Directive 9285.6-03
USEPA 2002. USEPA Soil Screening Guidance Users Guide
USEPA 2011. Exposure Factors Handbook
USEPA 2014. USEPA Regional Screening Level Tables. Dated May of 2014

Analyte[1]	CAS	Oral Reface Dose (RfD_o)[1]		Oral Cancer Slope Factor (CSF_o)[1]		GIABS[1]	ABS_d[1]	Non-carcinogenic Soil Dermal Contact Soil Cleanup Level (mg/kg)	Carcinogenic Soil Dermal Contact Soil Cleanup Level (mg/kg)
		Value (mg/kg-day)	Reference	Value $(mg/kg\text{-}day)^{-1}$	Reference	unitless	unitless		
Aroclor 1248	12672-29-6	--	--	2.0	S	1.0	0.14	--	2.8
Aroclor 1254	11097-69-1	0.000020	I	2.0	S	1.0	0.14	40	2.8
Aroclor 1262[2]	37324-23-5	--	--	2.0	S	1.0	0.14	--	2.8

Notes

1. Values taken from the USEPA Regional Screening Level Tables, Dated May 2014
2. Due to a lack of appropriate toxicity values for Aroclor 1262, surrogate toxicity values were based on "Polychlorinated Biphenyls (high risk)" as found in the May 2014, USEPA RSL tables

NA = Not Available
I = Integrated Risk Information System value
S = Surrogate value taken from "High Risk" PCBs for Aroclors 1248, 1254, 1260, and 1262 in accordance with the USEPA RSL guidance.

Table 5-1-4. Industrial Worker Preliminary Remediation Goals - All Pathways

Analyte	Non-carcinogenic Soil Preliminary Remediation Goal				Carcinogenic Soil Preliminary Remediation Goal						Selected Soil Total Soil Cleanup Level (mg/kg)	Note	Cancer Risk Associated with the Selected PRG	Hazard Quotient Associated with the Selected PRG
	Non-carcinogenic Soil Ingestion Soil Cleanup Level (mg/kg) (THQ = 1.0)	Non-carcinogenic Soil Inhalation Soil Cleanup Level (mg/kg) (THQ = 1.0)	Non-carcinogenic Soil Dermal Contact Soil Cleanup Level (mg/kg) (THQ = 1.0)	Non-carcinogenic Soil Total Soil Cleanup Level (mg/kg) (THQ = 1.0)	Carcinogenic Soil Ingestion Soil Cleanup Level (mg/kg) (TR = 1 x 10-6)	Carcinogenic Soil Inhalation Soil Cleanup Level (mg/kg) (TR = 1 x 10-6)	Carcinogenic Soil Dermal Contact Soil Cleanup Level (mg/kg) (TR = 1 x 10-6)	Carcinogenic Soil Total Soil Cleanup Level (mg/kg) (TR = 1 x 10-6)	Carcinogenic Soil Total Soil Cleanup Level (mg/kg) (TR = 1 x 10-5)	Carcinogenic Soil Total Soil Cleanup Level (mg/kg) (TR = 1 x 10-4)				
Aroclor 1248	--	--	--	--	1.6	13,625	2.8	1.0	10	103	**10**	**Based on a TR of 1 x 10^{-5}**	1.0E-05	--
Aroclor 1254	23	--	40	15	1.6	13,625	2.8	1.0	10	103	**15**	**Based on a Non-cancer THQ of 1.0**	1.4E-05	1.0
Aroclor 1262	--	--	--	--	1.6	13,625	2.8	1.0	10	103	**10**	**Based on a TR of 1 x 10^{-5}**	1.0E-05	--
													Cumulative Cancer Risk	**Hazard Index**
													3.4E-05	**1.0**

Notes:

THQ = Target Hazard Quotient
TR = Target Risk

Table 5-2-1. Older Child Trespasser Preliminary Remediation Goals – Soil Ingestion Pathway

Parameter	Symbol	Value	Unit	Equation	Source
Averaging Time, Carcinogenic	AT_c	25,550	days	--	USEPA 1991
Averaging Time, Non-carcinogenic	AT_{nc}	2,190	days	--	USEPA 1991, ED x 365 days/year
Body Weight, Older Child	BW_{oc}	53	kg	--	See Attachment B-1
Oral Cancer Slope Factor	CSF_o	Chemical Specific	$(mg/kg\text{-}day)^{-1}$	--	USEPA 2014
Exposure Duration, Older Child	ED_{oc}	6.0	years	--	USEPA 1991
Exposure Frequency, Older Child Trespasser	EF_{oc}	52	days/year	--	Best professional judgment. Once per week
Soil Ingestion Rate, Older Child	IRS_{oc}	100	mg/day	--	USEPA 2011
Age-adjusted Soil Ingestion Rate, Older Child	$IFS_{oc\text{-}adj}$	593	mg/kg	$IRS_{oc} = ((ED_{oc}*EF_{oc}*IRS_{oc})/BW_{oc})$	USEPA 2014
Oral Reference Dose	RfD_o	Chemical Specific	mg/kg-day	--	USEPA 2014
Incidental Ingestion Soil Cleanup Level - Carcinogenic	--	Chemical Specific	mg/kg	Cleanup Level = $(TR \times AT_c)/(CSF_o \times IFS_{oc\_adj} \times 0.000001$ mg/kg)	USEPA 2014
Incidental Ingestion Soil Cleanup Level - Non-carcinogenic	--	Chemical Specific	mg/kg	Cleanup Level = $(THQ \times AT_{nc} \times BW_{oc})/(EF_{oc} \times ED_{oc} \times (1/RfD_o) \times IRS_{oc} \times 0.000001$ mg/kg)	USEPA 2014
Target Hazard Quotient	THQ	1.0	unitless	--	USEPA, 1989
Target Cancer Risk	TR	1.0E-06	unitless	--	USEPA, 1989

References

USEPA 1989. Risk assessment guidance for Superfund. Volume I: Human health evaluation manual (Part A). Interim Final. Office of Emergency and Remedial Response. USEPA/540/1-89/002.
USEPA 1991. Human health evaluation manual, supplemental guidance: "Standard default exposure factors". OSWER Directive 9285.6-03
USEPA 2011. Exposure Factors Handbook 2011 Edition (Final). U.S. Environmental Protection Agency, Washington, DC, USEPA/600/R-09/052F
USEPA 2014. USEPA Regional Screening Level Tables. Dated May of 2014

Analyte[1]	CAS	Mutagenic?[1]	Oral Reface Dose (RfD_o)[1]		Oral Cancer Slope Factor (CSF_o)[1]		Non-carcinogenic Older Child Trespasser Soil Ingestion Soil Cleanup Level (mg/kg)	Old Child Trespasser Carcinogenic Soil Ingestion Soil Cleanup Level (mg/kg)
			Value (mg/kg-day)	Reference	Value $(mg/kg\text{-}day)^{-1}$	Reference		
Aroclor 1248	12672-29-6	No	--	--	2.0	S	--	22
Aroclor 1254	11097-69-1	No	0.000020	I	2.0	S	74	22
Aroclor 1262[2]	37324-23-5	No	--	--	2.0	S	--	22

Notes

1. Values taken from the USEPA Regional Screening Level Tables, Dated May 2014
2. Due to a lack of appropriate toxicity values for Aroclor 1262, surrogate toxicity values were based on "Polychlorinated Biphenyls (high risk)" as found in the May 2014, USEPA RSL tables

NA = Not Available
I = Integrated Risk Information System value
S = Surrogate value taken from "High Risk" PCBs for Aroclors 1248, 1254, 1260, and 1262 in accordance with the USEPA RSL guidance.

Table 5-2-2. Older Child Trespasser Preliminary Remediation Goals – Inhalation Pathway

Parameter	Symbol	Value	Unit	Equation	Source
Averaging Time, Carcinogenic	AT_c	25,550	days	--	USEPA 1991
Averaging Time, Non-carcinogenic	AT_{nc}	2,190	days	--	USEPA 1991, ED x 365 days/year
Conversion Factor 1	CF1	0.042	days/hour	--	24 hours per day
Conversion Factor 2	CF2	1,000	µg/mg	--	1000 micrograms per milligram
Exposure Duration, Older Child	ED_{oc}	6.0	years	--	USEPA 1991
Exposure Frequency, Older Child Trespasser	EF_{oc}	52	days/year	--	Best professional judgment. One day per week
Exposure Time, Older Child Trespasser	ET_{oc}	2.0	hours/day	--	Value for Playing on gravel/dirt (USEPA 2011, Table 16-1)
Inhalation Unit Risk	IUR	Chemical-Specific	$(\mu g/m^3)^{-1}$	--	USEPA, 2014
Reference Concentration	RfC	Chemical-Specific	mg/m^3	--	USEPA, 2014
Inhalation of Dust and Volatiles Soil Cleanup Level - Carcinogenic	--	Chemical-Specific	mg/kg	Cleanup Level = $(TR \times AT_c)/(EF_{oc} \times ED_{oc} \times ET_{oc} \times CF1 \times CF2 \times IUR \times (1/PEF))$	USEPA, 2014
Inhalation of Dust and Volatiles Soil Cleanup Level - Non-carcinogenic	--	Chemical-Specific	mg/kg	Cleanup Level = $(THQ \times AT_{nc})/(EF_{oc} \times ED_{oc} \times ET_{oc} \times CF1 \times (1/RfC) \times (1/PEF))$	USEPA, 2014
Target Hazard Quotient	THQ	1.0	unitless	--	USEPA, 1989
Target Cancer Risk	TR	1.0E-06	unitless	--	USEPA, 1989
Particulate Emission Factor, Wind	PEF	6.3E+08	m^3/kg	--	See Table A-1

References

USEPA 1989. Risk assessment guidance for Superfund. Volume I: Human health evaluation manual (Part A). Interim Final. Office of Emergency and Remedial Response. USEPA/540/1-89/002.
USEPA 1991. Human health evaluation manual, supplemental guidance: "Standard default exposure factors". OSWER Directive 9285.6-03
USEPA 2011. Exposure Factors Handbook 2011 Edition (Final). U.S. Environmental Protection Agency, Washington, DC, USEPA/600/R-09/052F
USEPA 2014. USEPA Regional Screening Level Tables. Dated May of 2014

Analyte[1]	CAS	Volatile[1]	Mutagenic[1]	Inhalation Reference Concentration (RfC1		Inhalation Unit Risk (IUR)[1]		Non-carcinogenic Soil Inhalation Soil Cleanup Level (mg/kg)	Carcinogenic Soil Inhalation Soil Cleanup Level (mg/kg)
				Value (mg/m^3)	Reference	Value $(\mu g/m^3)^{-1}$	Reference		
Aroclor 1248	12672-29-6	No	No	--	--	0.00057	S	--	1.09E+06
Aroclor 1254	11097-69-1	No	No	--	--	0.00057	S	--	1.09E+06
Aroclor 1262[2]	37324-23-5	No	No	--	--	0.00057	S	--	1.09E+06

Notes

1. Values taken from the USEPA Regional Screening Level Tables, Dated May 2014

2. Due to a lack of appropriate toxicity values for Aroclor 1262, surrogate toxicity values were based on "Polychlorinated Biphenyls (high risk)" as found in the May 2014, USEPA RSL tables

NA = Not Available
I = Integrated Risk Information System value
S = Surrogate value taken from "High Risk" PCBs for Aroclors 1248, 1254, 1260, and 1262 in accordance with the USEPA RSL guidance.

Table 5-2-3. Older Child Trespasser Preliminary Remediation Goals – Dermal Contact with Soil Pathway

Parameter	Symbol	Value	Unit	Equation	Source
Fraction of contaminant absorbed dermally from soil	ABS_d	Chemical Specific	Unitless	--	USEPA 2014
Adherence Factor, Older Child	AF_{oc}	0.072	mg/cm^2	--	See Table B-2
Averaging Time, Carcinogenic	AT_c	25,550	days	--	USEPA 1991
Averaging Time, Non-carcinogenic	AT_{nc}	2,190	days	--	USEPA 1991, ED x 365 days/year
Body Weight, Older Child	BW_{oc}	53	kg	--	See Attachment B-1
Oral Cancer Slope Factor	CSF_o	Chemical Specific	$(mg/kg\text{-}day)^{-1}$	--	USEPA 2014
Exposure Duration, Older Child	ED_{oc}	6.0	years	--	USEPA 1991
Exposure Frequency, Older Child Trespasser	EF_{oc}	52	days/year	--	Best professional judgment. Once per week
Fraction of contaminant absorbed in gastrointestinal tract	GIABS	Chemical Specific	Unitless	--	USEPA 2014
Oral Reference Dose	RfD_o	Chemical Specific	mg/kg-day	--	USEPA 2014
Incidental Ingestion Soil Cleanup Level - Carcinogenic	--	Chemical Specific	mg/kg	Cleanup Level = (TR x AT_c)/(DFS_{oc_adj} x (CSF_o/GIABS) x ABS_d x 0.000001 mg/kg)	USEPA 2014
Incidental Ingestion Soil Cleanup Level - Non-carcinogenic	--	Chemical Specific	mg/kg	Cleanup Level = (THQ x AT_{nc} x BW_{oc})/(EF_{oc} x ED_{oc} x (1/(RfD_o* x GIABS)) x SA_{oc} x AF_{oc} x ABS_d x 0.000001 mg/kg)	USEPA 2014
Surface Area, Older Child	SA_{oc}	3,706	cm^2	$DFS_{oc\text{-}adj}$ = (ED_{oc} x EF_{oc} x SA_{oc} x AF_{oc})/BW_{oc}	See Table B-2
Dermal contact factor- age-adjusted	$DFS_{oc\text{-}adj}$	1,580	mg/kg	--	Calculated
Target Hazard Quotient	THQ	1.0	unitless	--	USEPA, 1989
Target Cancer Risk	TR	1.0E-06	unitless	--	USEPA, 1989

References

USEPA 1989. Risk assessment guidance for Superfund. Volume I: Human health evaluation manual (Part A). Interim Final. Office of Emergency and Remedial Response. USEPA/540/1-89/002.
USEPA 1991. Human health evaluation manual, supplemental guidance: "Standard default exposure factors". OSWER Directive 9285.6-03
USEPA 2002. USEPA Soil Screening Guidance Users Guide
USEPA 2011. Exposure Factors Handbook 2011 Edition (Final). U.S. Environmental Protection Agency, Washington, DC, USEPA/600/R-09/052F
USEPA 2014. USEPA Regional Screening Level Tables. Dated May of 2014

Analyte[1]	CAS	Mutagenic?[1]	Oral Reface Dose (RfD_o)[2]		Oral Cancer Slope Factor (CSF_o)[2]		GIABS[2]	ABS_d[2]	Older Child Non-carcinogenic Soil Dermal Contact Soil Cleanup Level (mg/kg)	Older Child Carcinogenic Soil Dermal Contact Soil Cleanup Level (mg/kg)
			Value (mg/kg-day)	Reference	Value $(mg/kg\text{-}day)^{-1}$	Reference	unitless	unitless		
Aroclor 1248	12672-29-6	No	--	--	2.0	S	1.0	0.14	--	58
Aroclor 1254	11097-69-1	No	0.000020	I	2.0	S	1.0	0.14	198	58
Aroclor 1262[2]	37324-23-5	No	--	--	2.0	S	1.0	0.14	--	58

Notes

1. Values taken from the USEPA Regional Screening Level Tables, Dated May 2014
2. Due to a lack of appropriate toxicity values for Aroclor 1262, surrogate toxicity values were based on "Polychlorinated Biphenyls (high risk)" as found in the May 2014, USEPA RSL tables

NA = Not Available
I = Integrated Risk Information System value
S = Surrogate value taken from "High Risk" PCBs for Aroclors 1248, 1254, 1260, and 1262 in accordance with the USEPA RSL guidance.

Table 5-2-4. Older Child Trespasser Preliminary Remediation Goals – All Pathways

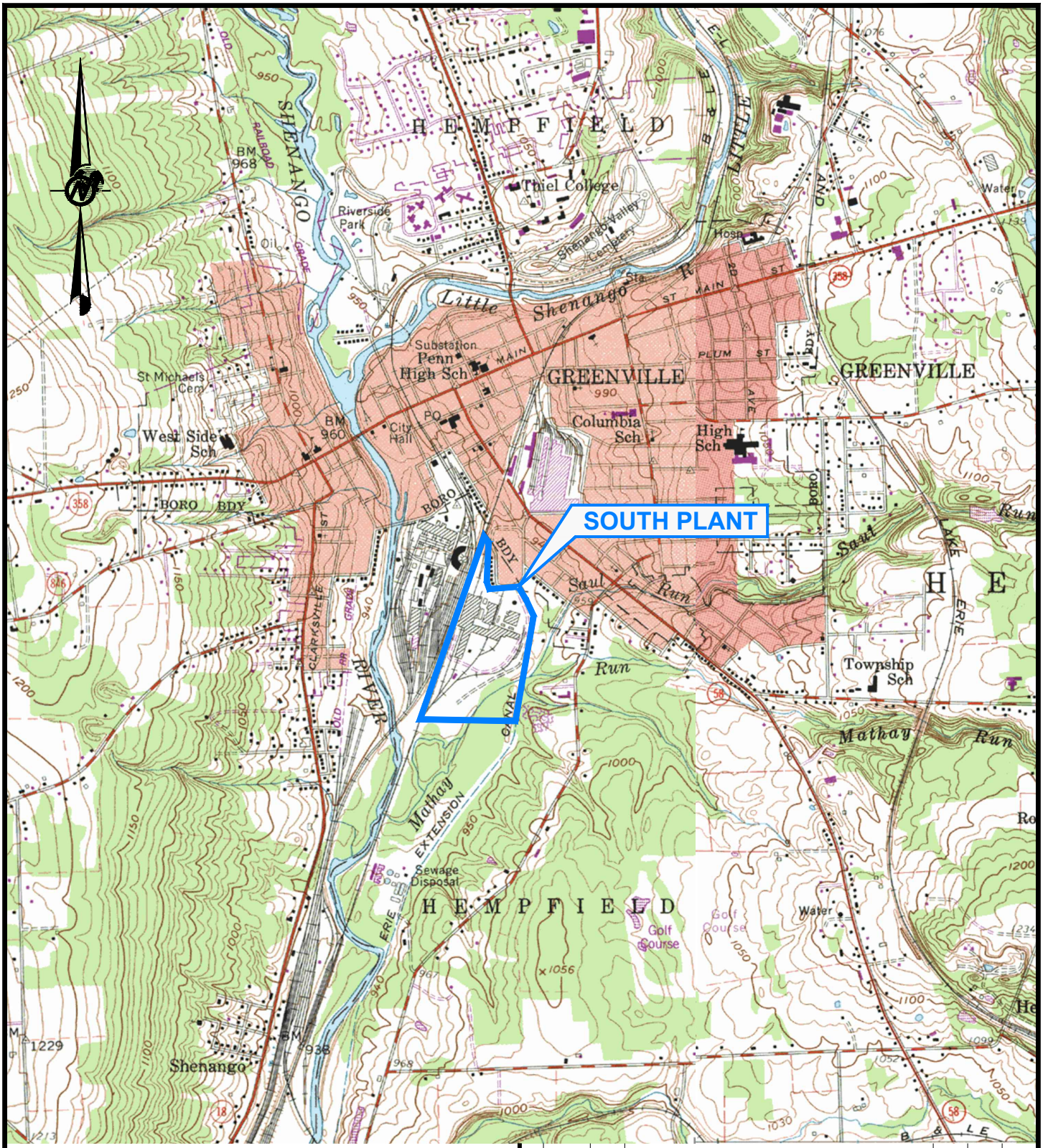
Analyte	Non-carcinogenic Soil Preliminary Remediation Goal				Carcinogenic Soil Preliminary Remediation Goal						Selected Soil Total Soil Cleanup Level (mg/kg)	Note	Cancer Risk Associated with the Selected PRG	Hazard Quotient Associated with the Selected PRG
	Non-carcinogenic Soil Ingestion Soil Cleanup Level (mg/kg) (THQ = 1.0)	Non-carcinogenic Soil Inhalation Soil Cleanup Level (mg/kg) (THQ = 1.0)	Non-carcinogenic Soil Dermal Contact Soil Cleanup Level (mg/kg) (THQ = 1.0)	Non-carcinogenic Soil Total Soil Cleanup Level (mg/kg) (THQ = 1.0)	Carcinogenic Soil Ingestion Soil Cleanup Level (mg/kg) (TR = 1 x 10-6)	Carcinogenic Soil Inhalation Soil Cleanup Level (mg/kg) (TR = 1 x 10-6)	Carcinogenic Soil Dermal Contact Soil Cleanup Level (mg/kg) (TR = 1 x 10-6)	Carcinogenic Soil Total Soil Cleanup Level (mg/kg) (TR = 1 x 10-6)	Carcinogenic Soil Total Soil Cleanup Level (mg/kg) (TR = 1 x 10-5)	Carcinogenic Soil Total Soil Cleanup Level (mg/kg) (TR = 1 x 10-4)				
Aroclor 1248	--	--	--	--	22	1.1E+06	58	15.7	157	1,569	**157**	**Based on a TR of 1 x 10^{-5}**	1.0E-05	--
Aroclor 1254	74	--	198	54	22	1.1E+06	58	15.7	157	1,569	**54**	**Based on a Non-cancer THQ of 1.0**	3.4E-06	1.0
Aroclor 1262	--	--	--	--	22	1.1E+06	58	15.7	157	1,569	**157**	**Based on a TR of 1 x 10^{-5}**	1.0E-05	--

Notes:

THQ = Target Hazard Quotient
TR = Target Risk

Cumulative Cancer Risk	Hazard Index
2.3E-05	**1.0**

FIGURES



2000 0 2000

SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

RISK-BASED PCB CLEANUP PLAN - SOUTH PLANT SITE
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE

SITE LOCATION MAP

REFERENCE

1.) BASE MAP TAKEN FROM USGS 7.5 MINUTE SERIES QUADRANGLES OF GREENVILLE WEST AND GREENVILLE EAST, DATED 1958, PHOTOREVISED IN 1990 AND 1970 RESPECTIVELY.

NJ Authorization #24GA28029100

Golder Associates

PROJECT No.		073-6009	FILE No.	0736009AS07
DESIGN	RSA	11/26/14	SCALE AS SHOWN	REV. 0
CADD	RG	11/26/14		
CHECK	RSA	11/26/14		
REVIEW	JBG	11/26/14		

FIGURE 1

Drawing file: 0736009AS07 - Figure 1.dwg Nov 26, 2014 - 12:26pm

REFERENCES

1.) BASE MAP COMPILED FROM DIGITAL CAD FILES 08-3820 GOLDER-N-S.dwg, TITLED "TOPOGRAPHIC SURVEY OF TRINITY INDUSTRIES, INC," PROVIDED BY HOWELLS & BAIRD, INC, DATED JUNE 25, 2008 (REVISED JULY 15, 2009) AND 11-4417 A.dwg AND 11-4417 B.dwg, TITLED "TOPOGRAPHIC SURVEY FOR TRINITY INDUSTRIES, INC - SOUTH PLANT," PROVIDED BY HOWELLS & BAIRD, INC, DATED JULY 2011.

2.) THE HORIZONTAL COORDINATES SHOWN HEREON ARE REFERENCED TO PENN DOT MONUMENTS AO-86 AND AO-85 (PENNSYLVANIA STATE PLANE COORDINATE SYSTEM - NAD83)

3.) LOCATION OF BOROUGH 24-INCH STORM SEWER FROM CHICAGO BRIDGE AND IRON COMPANY DRAWING TITLED "FLOOD CONTROL PLAN IN VICINITY OF C.B & I CO. PLANT," DATED APRIL 22, 1974.

4.) PRE-DESIGN AND ADDITIONAL INVESTIGATION LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 9-6-12," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 6, 2012.

LEGEND

- PROPERTY LINE
- RAILS
- 940 — CONTOUR LINE
- DRAINAGE DITCH WITH INTERMITTENT FLOW
- BOROUGH 24-INCH STORM SEWER
- STREAM OR CREEK
- RI SURFACE WATER SAMPLE LOCATION
- RI SURFACE WATER AND SEDIMENT SAMPLE LOCATION
- RI SURFACE WATER AND SURFACE SOIL SAMPLE LOCATION
- RI SURFACE SOIL SAMPLE LOCATION FROM DRAINAGE DITCH
- RI GROUNDWATER MONITORING WELL LOCATION
- RI SOIL BORING LOCATION
- RI TEST PIT LOCATION
- PDI SOIL SAMPLE LOCATION (SEE REFERENCE 4)
- PDI DYE TEST LOCATION (SEE REFERENCE 4)
- PDI VAPOR INTRUSION SUB-SLAB SAMPLE LOCATION (SEE REFERENCE 4)
- PDI/ADDITIONAL INVESTIGATION MONITORING WELL (SEE REFERENCE 4)
- EXTENT OF AREAS TO BE ADDRESSED BY EXCAVATION OF IMPACTED SOILS AND BACKFILLING (SEE NOTE 1)
- EXTENT OF DISPOSAL AREA TO BE CAPPED (SEE NOTE 2)
- PCB SAMPLE COLLECTED

GENERAL DOWNGRADIENT SW2

GENERAL DOWNGRADIENT SW1

WESTERN DRAINAGE DITCH

SOUTHERN DRAINAGE DITCH

FORMER DISPOSAL AREAS

FORMER OPERATIONS AREAS

OUTFALL (OF4)

OUTFALL (OF3)

ERIE RAILROAD

Waugh Ave.

Pine St.

Schuylkill River

Mather Run

Drainage Canal

Foundation Run

Factory Buildings

Main Sub-Station

Power House

Overhead Crane

Turntable Shed

Main Office

Shop & Service Garage

90 0 90 180
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

RISK-BASED PCB CLEANUP PLAN - SOUTH PLANT SITE
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE

RI / PRE-DESIGN SAMPLING LOCATIONS 2007 - 2009

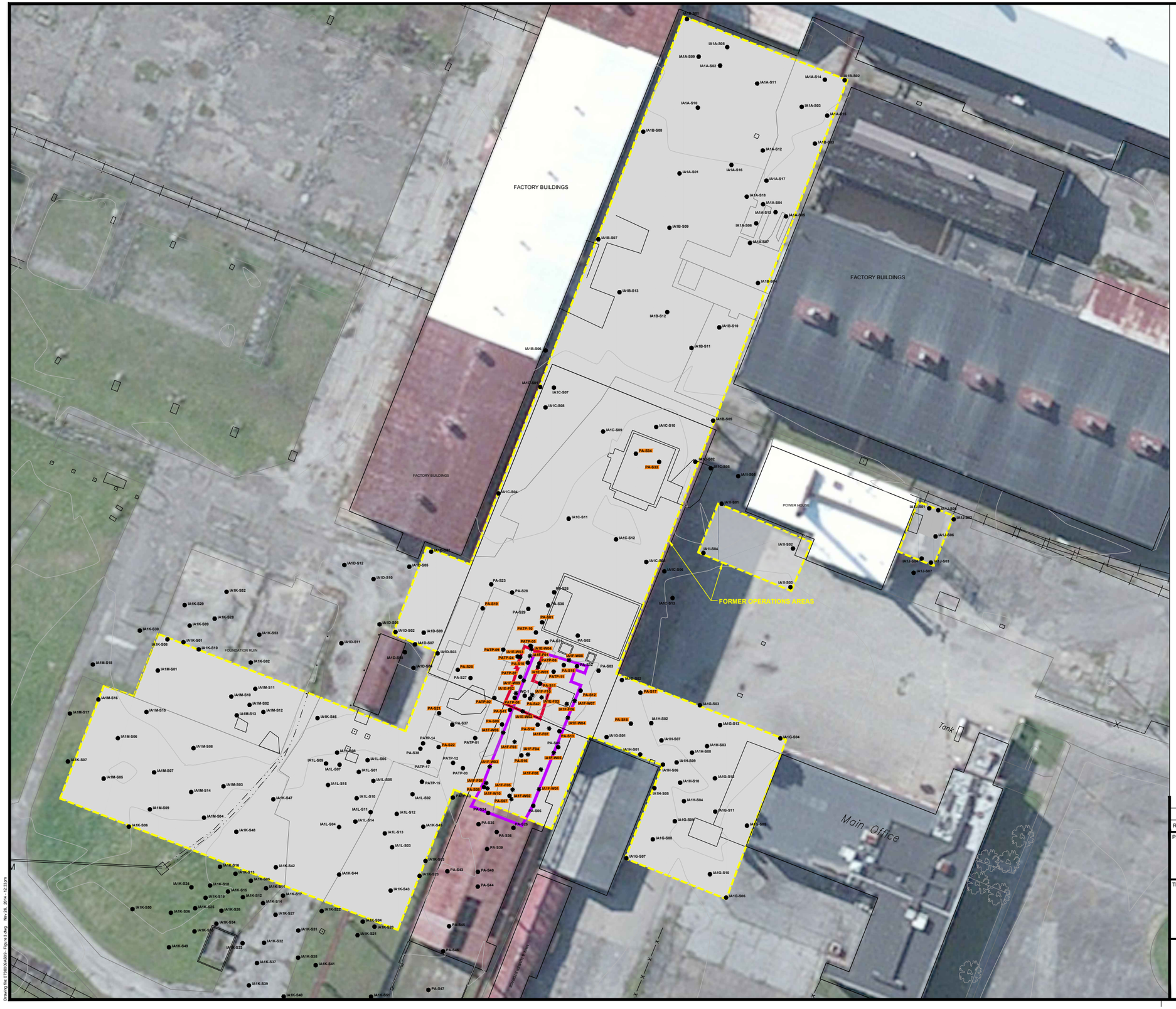
NJ Authorization #24GA28029100

Golder Associates

PROJECT No.		073-6009	FILE No.		0736009AS08
DESIGN	RSA	11/26/14	SCALE	AS SHOWN	REV. 0
CADD	RG	11/26/14			
CHECK	RSA	11/26/14			
REVIEW	JBG	11/26/14			

FIGURE 2

Drawing file: 073600AS08 - Figure 2.dwg Nov 26, 2014 - 12:28pm



LEGEND

- RAILS
- 940 — CONTOUR LINE
- EXTENT OF AREAS TO BE ADDRESSED BY EXCAVATION OF IMPACTED SOILS AND BACKFILLING
- PRE-EXCAVATION SAMPLING LOCATION
- POST EXCAVATION CONFIRMATION SAMPLING LOCATION
- PCB SAMPLE COLLECTED
- PCB EXCAVATION AREA (IA-1E)
- VOC EXCAVATION AREA (IA-1F)

REFERENCES

1.) BASE MAP COMPILED FROM DIGITAL CAD FILES 08-3820 GOLDER-N-S.dwg, TITLED "TOPOGRAPHIC SURVEY OF TRINITY INDUSTRIES, INC," PROVIDED BY HOWELLS & BAIRD, INC, DATED JUNE 25, 2008 (REVISED JULY 15, 2009) AND 11-4417 A.dwg AND 11-4417 B.dwg, TITLED "TOPOGRAPHIC SURVEY FOR TRINITY INDUSTRIES, INC - SOUTH PLANT," PROVIDED BY HOWELLS & BAIRD, INC, DATED JULY 2011.

2.) THE HORIZONTAL COORDINATES SHOWN HEREON ARE REFERENCED TO PENN DOT MONUMENTS AO-86 AND AO-85 (PENNSYLVANIA STATE PLANE COORDINATE SYSTEM - NAD83)

3.) LOCATION OF BOROUGH 24-INCH STORM SEWER FROM CHICAGO BRIDGE AND IRON COMPANY DRAWING TITLED "FLOOD CONTROL PLAN IN VICINITY OF C.B & I CO. PLANT," DATED APRIL 22, 1974.

4.) PRE-EXCAVATION SAMPLING LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 4-14-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED APRIL 14, 2014 AND DIGITAL CAD FILE "08-3820 GOLDER-N-S 5-05-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED MAY 5, 2014.

5.) POST EXCAVATION SAMPLING LOCATIONS TAKEN FROM DIGITAL CAD FILES "14-4923 GOLDER-S 8-21-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 21, 2014, "14-4923 GOLDER-S 8-28-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 28, 2014, AND "9-17-14-14-4923 GOLDER S.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 17, 2014.

6.) EXCAVATION AREAS BASED ON DIGITAL CAD FILES "IA ASBUILT 8-8-14.dwg," "IA ASBUILT 8-14-14.dwg," AND "IA ASBUILT 9-17-14.dwg" PROVIDED BY HOWELLS & BAIRD, INC. AND FIELD ESTIMATES.

30 0 30 60
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
RISK-BASED PCB CLEANUP PLAN - SOUTH PLANT SITE
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE
EXCAVATION DELINEATION SAMPLE LOCATIONS 2014

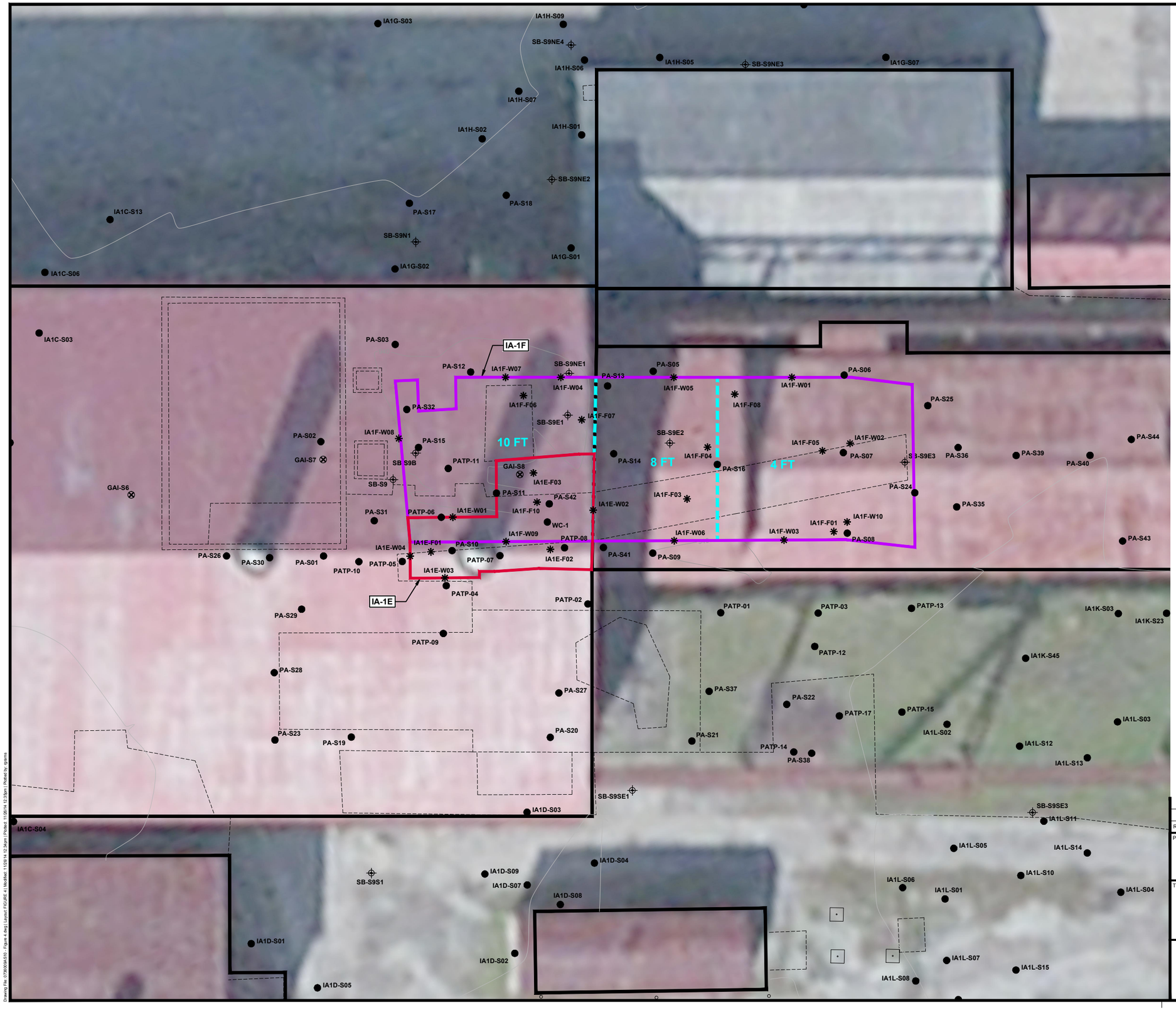
NJ Authorization #24GA28029100

Golder Associates

PROJECT No.		073-6009	FILE No.	0736009AS09
DESIGN	RSA	11/26/14	SCALE AS SHOWN	REV. 0
CADD	RG	11/26/14		
CHECK	RSA	11/26/14		
REVIEW	JBG	11/26/14		

FIGURE 3

Drawing file: 0736009AS09 - Figure 3.dwg Nov 26, 2014 - 12:32pm



LEGEND

- 940 — TOPOGRAPHIC CONTOUR
- RI SOIL BORING LOCATION
- PDI SOIL SAMPLE LOCATION
- PRE-EXCAVATION SAMPLING LOCATION
- POST EXCAVATION CONFIRMATION SAMPLING LOCATION
- BUILDING FEATURES
- FLOOR FEATURES
- PCB EXCAVATION AREA (IA-1E)
- VOC EXCAVATION AREA (IA-1F)
- 4 FT — EXCAVATION DEPTHS (SEE NOTE 1)

NOTE

1.) PCB EXCAVATION AREA DEPTH WAS 2 FEET. SUBSEQUENT VOC EXCAVATION DEPTH BELOW IT WAS TO 10 FOOT DEPTH.

REFERENCES

1.) BASE MAP COMPILED FROM DIGITAL CAD FILES 08-3820 GOLDER-N-S.dwg, TITLED "TOPOGRAPHIC SURVEY FOR TRINITY INDUSTRIES, INC," PROVIDED BY HOWELLS & BAIRD, INC, DATED JUNE 25, 2008 (REVISED JULY 15, 2009) AND 11-4417 A.dwg AND 11-4417 B.dwg, TITLED "TOPOGRAPHIC SURVEY FOR TRINITY INDUSTRIES, INC - SOUTH PLANT," PROVIDED BY HOWELLS & BAIRD, INC, DATED JULY 2011.

2.) THE HORIZONTAL COORDINATES SHOWN HEREON ARE REFERENCED TO PENN DOT MONUMENTS AO-86 AND AO-85 (PENNSYLVANIA STATE PLANE COORDINATE SYSTEM - NAD83)

3.) PRE-EXCAVATION SAMPLING LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 4-14-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED APRIL 14, 2014 AND DIGITAL CAD FILE "08-3820 GOLDER-N-S 5-05-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED MAY 5, 2014.

4.) PRE-DESIGN AND ADDITIONAL INVESTIGATION LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 9-6-12," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 6, 2012.

5.) POST EXCAVATION SAMPLING LOCATIONS TAKEN FROM DIGITAL CAD FILES "14-4923 GOLDER-S 8-21-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 21, 2014, "14-4923 GOLDER-S 8-28-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 28, 2014, AND "9-17-14-14-4923 GOLDER S.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 17, 2014.

6.) EXCAVATION AREAS BASED ON DIGITAL CAD FILES "IA ASBUILT 8-8-14.dwg," "IA ASBUILT 8-14-14.dwg," AND "IA ASBUILT 9-17-14.dwg" PROVIDED BY HOWELLS & BAIRD, INC. AND FIELD ESTIMATES.

10 0 10 20
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

RISK-BASED PCB CLEANUP PLAN - SOUTH PLANT SITE
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE

VOC IMPACTED AREA

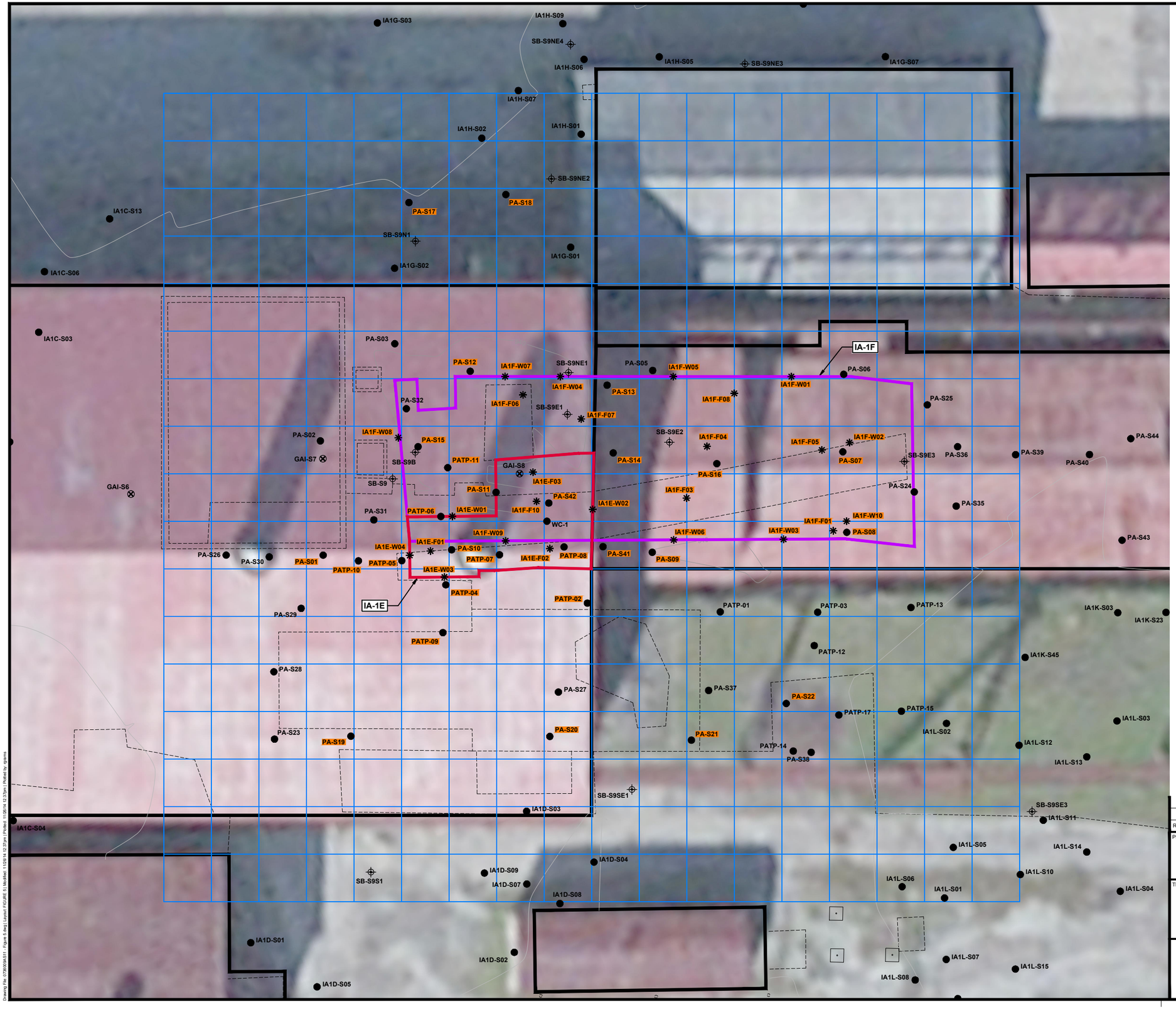
NJ Authorization #24GA28029100

Golder Associates

PROJECT No.		073-6009
DESIGN	RSA	11/26/14
CADD	RG	11/26/14
CHECK	RSA	11/26/14
REVIEW	JBG	11/26/14

FILE No.			0736009AS10
SCALE	AS SHOWN	REV.	0

FIGURE 4



LEGEND

- 940 — TOPOGRAPHIC CONTOUR
- RI SOIL BORING LOCATION
- PDI SOIL SAMPLE LOCATION
- PRE-EXCAVATION SAMPLING LOCATION
- POST EXCAVATION CONFIRMATION SAMPLING LOCATION
- BUILDING FEATURES
- FLOOR FEATURES
- 10 FT x 10 FT GRID (FOR ILLUSTRATIVE PURPOSES)
- PCB SAMPLE COLLECTED
- PCB EXCAVATION AREA (IA-1E)
- VOC EXCAVATION AREA (IA-1F)

REFERENCES

1.) BASE MAP COMPILED FROM DIGITAL CAD FILES 08-3820 GOLDER-N-S.dwg, TITLED "TOPOGRAPHIC SURVEY OF TRINITY INDUSTRIES, INC," PROVIDED BY HOWELLS & BAIRD, INC, DATED JUNE 25, 2008 (REVISED JULY 15, 2009) AND 11-4417 A.dwg AND 11-4417 B.dwg, TITLED "TOPOGRAPHIC SURVEY FOR TRINITY INDUSTRIES, INC - SOUTH PLANT," PROVIDED BY HOWELLS & BAIRD, INC, DATED JULY 2011.

2.) THE HORIZONTAL COORDINATES SHOWN HEREON ARE REFERENCED TO PENN DOT MONUMENTS AO-86 AND AO-85 (PENNSYLVANIA STATE PLANE COORDINATE SYSTEM - NAD83)

3.) PRE-EXCAVATION SAMPLING LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 4-14-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED APRIL 14, 2014 AND DIGITAL CAD FILE "08-3820 GOLDER-N-S 5-05-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED MAY 5, 2014.

4.) PRE-DESIGN AND ADDITIONAL INVESTIGATION LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 9-6-12," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 6, 2012.

5.) POST EXCAVATION SAMPLING LOCATIONS TAKEN FROM DIGITAL CAD FILES "14-4923 GOLDER-S 8-21-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 21, 2014, "14-4923 GOLDER-S 8-28-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 28, 2014, AND "9-17-14-14-4923 GOLDER S.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 17, 2014.

6.) EXCAVATION AREAS BASED ON DIGITAL CAD FILES "IA ASBUILT 8-8-14.dwg," "IA ASBUILT 8-14-14.dwg," AND "IA ASBUILT 9-17-14.dwg" PROVIDED BY HOWELLS & BAIRD, INC. AND FIELD ESTIMATES.

10 0 10 20
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

RISK-BASED PCB CLEANUP PLAN - SOUTH PLANT SITE
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE

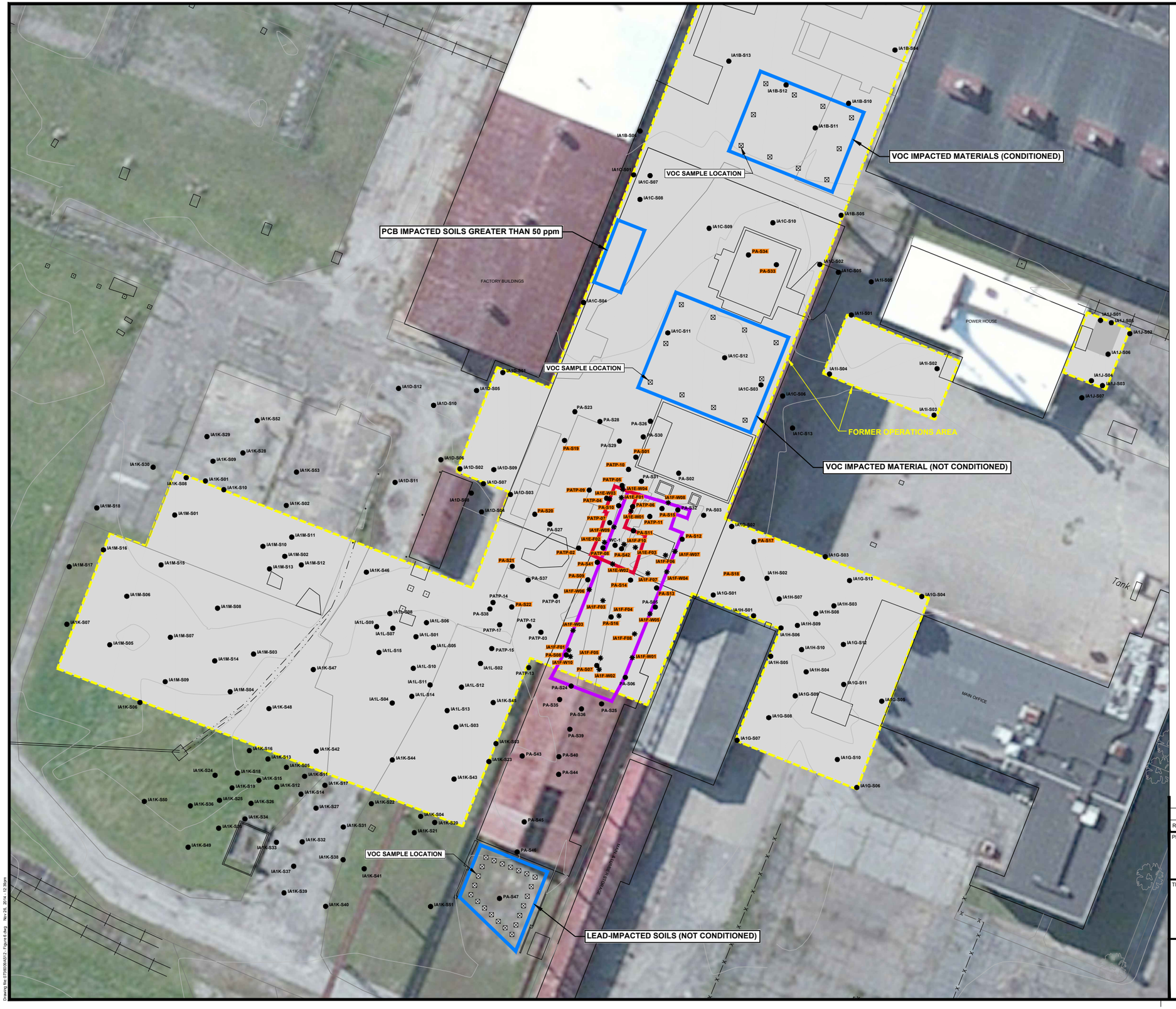
PCB IMPACTED AREA

NJ Authorization #24GA28029100

Golder Associates

PROJECT No.		073-6009	FILE No.		0736009AS11
DESIGN	RSA	11/26/14	SCALE	AS SHOWN	REV. 0
CADD	RG	11/26/14			
CHECK	RSA	11/26/14			
REVIEW	JBG	11/26/14			

FIGURE 5



LEGEND

- RAILS
- 940 — CONTOUR LINE
- EXTENT OF AREAS TO BE ADDRESSED BY EXCAVATION OF IMPACTED SOILS AND BACKFILLING
- GRAB SAMPLE LOCATION FOR COMPOSITE
- PRE-EXCAVATION SAMPLING LOCATION
- POST EXCAVATION CONFIRMATION SAMPLING LOCATION
- PCB SAMPLE LOCATION
- PCB EXCAVATION AREA (IA-1E)
- VOC EXCAVATION AREA (IA-1F)
- TEMPORARY EXCAVATED MATERIAL STOCKPILE

REFERENCES

1.) BASE MAP COMPILED FROM DIGITAL CAD FILES 08-3820 GOLDER-N-S.dwg, TITLED "TOPOGRAPHIC SURVEY OF TRINITY INDUSTRIES, INC," PROVIDED BY HOWELLS & BAIRD, INC, DATED JUNE 25, 2008 (REVISED JULY 15, 2009) AND 11-4417 A.dwg AND 11-4417 B.dwg, TITLED "TOPOGRAPHIC SURVEY FOR TRINITY INDUSTRIES, INC - SOUTH PLANT," PROVIDED BY HOWELLS & BAIRD, INC, DATED JULY 2011.

2.) THE HORIZONTAL COORDINATES SHOWN HEREON ARE REFERENCED TO PENN DOT MONUMENTS AO-86 AND AO-85 (PENNSYLVANIA STATE PLANE COORDINATE SYSTEM - NAD83)

3.) LOCATION OF BOROUGH 24-INCH STORM SEWER FROM CHICAGO BRIDGE AND IRON COMPANY DRAWING TITLED "FLOOD CONTROL PLAN IN VICINITY OF C.B & I CO. PLANT," DATED APRIL 22, 1974.

4.) PRE-EXCAVATION SAMPLING LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 4-14-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED APRIL 14, 2014 AND DIGITAL CAD FILE "08-3820 GOLDER-N-S 5-05-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED MAY 5, 2014.

5.) POST EXCAVATION SAMPLING LOCATIONS TAKEN FROM DIGITAL CAD FILES "14-4923 GOLDER-S 8-21-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 21, 2014, "14-4923 GOLDER-S 8-28-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 28, 2014, AND "9-17-14-14-4923 GOLDER S.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 17, 2014.

6.) EXCAVATION AREAS BASED ON DIGITAL CAD FILES "IA ASBUILT 8-8-14.dwg," "IA ASBUILT 8-14-14.dwg," AND "IA ASBUILT 9-17-14.dwg" PROVIDED BY HOWELLS & BAIRD, INC. AND FIELD ESTIMATES.

7.) STOCKPILE LOCATIONS ARE APPROXIMATE AND BASED ON FIELD MEASUREMENTS.

25 0 25 50
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

RISK-BASED PCB CLEANUP PLAN - SOUTH PLANT SITE
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE

STOCKPILE LOCATIONS

NJ Authorization #24GA28029100

Golder Associates

PROJECT No.		073-6009	FILE No.		0736009AS12
DESIGN	RSA	11/26/14	SCALE	AS SHOWN	REV. 0
CADD	RG	11/26/14			
CHECK	RSA	11/26/14			
REVIEW	JBG	11/26/14			

FIGURE 6

Drawing file: 0736009AS12_Figure 6.dwg Nov 26, 2014 - 12:39pm

REFERENCES

1.) BASE MAP COMPILED FROM DIGITAL CAD FILES 08-3820 GOLDER-N-S.dwg, TITLED "TOPOGRAPHIC SURVEY OF TRINITY INDUSTRIES, INC," PROVIDED BY HOWELLS & BAIRD, INC, DATED JUNE 25, 2008 (REVISED JULY 15, 2009) AND 11-4417 A.dwg AND 11-4417 B.dwg, TITLED "TOPOGRAPHIC SURVEY FOR TRINITY INDUSTRIES, INC - SOUTH PLANT," PROVIDED BY HOWELLS & BAIRD, INC, DATED JULY 2011.

2.) THE HORIZONTAL COORDINATES SHOWN HEREON ARE REFERENCED TO PENN DOT MONUMENTS AO-86 AND AO-85 (PENNSYLVANIA STATE PLANE COORDINATE SYSTEM - NAD83)

3.) PRE-EXCAVATION SAMPLING LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 4-14-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED APRIL 14, 2014 AND DIGITAL CAD FILE "08-3820 GOLDER-N-S 5-05-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED MAY 5, 2014.

4.) PRE-DESIGN AND ADDITIONAL INVESTIGATION LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 9-6-12," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 6, 2012.

5.) PCB SAMPLING LOCATIONS AND IMPACTED AREAS TAKEN FROM DIGITAL CAD FILES "14-4923 GOLDER-S 8-21-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 21, 2014, "14-4923 GOLDER-S 8-28-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 28, 2014, AND "9-17-14-14-4923 GOLDER S.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 17, 2014.

Drawing file: 0736009AS05 - Extended View.dwg Nov 26, 2014 - 12:17pm

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
RISK-BASED PCB CLEANUP PLAN - SOUTH PLANT SITE
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE

PCB SAMPLING RESULTS

NJ Authorization #24GA28029100

Golder Associates
Mt Laurel, New Jersey

PROJECT No.		073-6009
DESIGN	RSA	11/26/14
CADD	RG	11/26/14
CHECK	RSA	11/26/14
REVIEW	JBG	11/26/14

FILE No. 0736009AS05
SCALE AS SHOWN REV. 0

FIGURE 7

LEGEND

- BUILDING FEATURES
- BUILDING AND SURFACE FEATURES
- 940 — CONTOUR LINE
- RI SOIL BORING LOCATION
- PDI SOIL SAMPLE LOCATION
- PRE-EXCAVATION SAMPLING LOCATION
- SOXHLET PCB SAMPLING LOCATION
- NON-SOXHLET PCB SAMPLING LOCATION
- PCB EXCAVATION AREA (IA-1E)
- VOC EXCAVATION AREA (IA-1F)
- 10 FT — EXCAVATION DEPTH
- PROPOSED FURTHER EXCAVATIONS
- PCB >1 and <15 ppm
- PCB >= 15 and <50 ppm
- PCB >= 50 ppm

EXTENT OF TOTAL PCB IMPACTS > 15 ppm OUTSIDE OF INITIAL PCB AND VOC EXCAVATION AREAS

- 0 FT
- 2 FT
- 4 FT

REFERENCES

1.) BASE MAP COMPILED FROM DIGITAL CAD FILES 08-3820 GOLDER-N-S.dwg, TITLED "TOPOGRAPHIC SURVEY OF TRINITY INDUSTRIES, INC," PROVIDED BY HOWELLS & BAIRD, INC, DATED JUNE 25, 2008 (REVISED JULY 15, 2009) AND 11-4417 A.dwg AND 11-4417 B.dwg, TITLED "TOPOGRAPHIC SURVEY FOR TRINITY INDUSTRIES, INC - SOUTH PLANT," PROVIDED BY HOWELLS & BAIRD, INC, DATED JULY 2011.

2.) THE HORIZONTAL COORDINATES SHOWN HEREON ARE REFERENCED TO PENN DOT MONUMENTS AO-86 AND AO-85 (PENNSYLVANIA STATE PLANE COORDINATE SYSTEM - NAD83)

3.) PRE-EXCAVATION SAMPLING LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 4-14-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED APRIL 14, 2014 AND DIGITAL CAD FILE "08-3820 GOLDER-N-S 5-05-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED MAY 5, 2014.

4.) PRE-DESIGN AND ADDITIONAL INVESTIGATION LOCATIONS WERE TAKEN FROM DIGITAL CAD FILE "08-3820 GOLDER-N-S 9-6-12," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 6, 2012.

5.) PCB SAMPLING LOCATIONS AND IMPACTED AREAS TAKEN FROM DIGITAL CAD FILES "14-4923 GOLDER-S 8-21-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 21, 2014, "14-4923 GOLDER-S 8-28-14.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED AUGUST 28, 2014, AND "9-17-14-14-4923 GOLDER S.dwg," PROVIDED BY HOWELLS & BAIRD, INC, DATED SEPTEMBER 17, 2014.

6.) EXCAVATION AREAS BASED ON DIGITAL CAD FILES "IA ASBUILT 8-8-14.dwg," "IA ASBUILT 8-14-14.dwg," AND "IA ASBUILT 9-17-14.dwg" PROVIDED BY HOWELLS & BAIRD, INC. AND FIELD ESTIMATES.

INSET MAP

SCALE 8 0 8 16 FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

RISK-BASED PCB CLEANUP PLAN - SOUTH PLANT SITE
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE

POST EXCAVATION IN-SITU PCB RESULTS

NJ Authorization #24GA28029100
Golder Associates
Mt Laurel, New Jersey

PROJECT No.		073-6009
DESIGN	RSA	11/26/14
CADD	RG	11/26/14
CHECK	RSA	11/26/14
REVIEW	JBG	11/26/14

FILE No. 0736009AS06
SCALE AS SHOWN REV. 0

FIGURE 8

Drawing file: 073600AS06 - Only Red/Excavated Depths Shown.dwg Nov 26, 2014 - 12:21pm

LEGEND

- BUILDING FEATURES
- BUILDING AND SURFACE FEATURES
- 940 — CONTOUR LINE
- RI SOIL BORING LOCATION
- PDI SOIL SAMPLE LOCATION
- PRE-EXCAVATION SAMPLING LOCATION
- SOXHLET PCB SAMPLING LOCATION
- NON-SOXHLET PCB SAMPLING LOCATION
- PROPOSED PCB CONFIRMATION SAMPLE LOCATION
- PCB EXCAVATION AREA (IA-1E)
- VOC EXCAVATION AREA (IA-1F)
- 10 FT — EXCAVATION DEPTH
- PROPOSED FURTHER EXCAVATIONS

EXTENT OF TOTAL PCB IMPACTS > 10 ppm OUTSIDE OF INITIAL PCB AND VOC EXCAVATION AREAS

- 0 FT
- 2 FT
- 4 FT

CRANE SUPPORT
CRANE SUPPORT
CRANE SUPPORT
BUILDING WALLS
CONCRETE FEATURE
BUILDING WALL
CRANE SUPPORT
CRANE SUPPORT

2 FT
2 FT
6 FT
10 FT
8 FT
2 FT
4 FT
8 FT
4 FT
4 FT
2 FT
6 FT
2 FT

REFERENCES

1.) BASE MAP COMPILED FROM DIGITAL CAD FILES 08-3820 GOLDER-N-S.dwg, TITLED "TOPOGRAPHIC SURVEY OF TRINITY INDUSTRIES, INC," PROVIDED BY HOWELLS & BAIRD, INC, DATED JUNE 25, 2008 (REVISED JULY 15, 2009) AND 11-4417 A.dwg AND 11-4417 B.dwg, TITLED "TOPOGRAPHIC SURVEY FOR TRINITY INDUSTRIES, INC - SOUTH PLANT," PROVIDED BY HOWELLS & BAIRD, INC, DATED JULY 2011.

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8 0 8 16
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
RISK-BASED PCB CLEANUP PLAN - SOUTH PLANT SITE
TRINITY INDUSTRIES, INC.
HEMPFIELD TOWNSHIP, PA

TITLE
PROPOSED PCB CONFIRMATION SAMPLE LOCATIONS

NJ Authorization #24GA28029100
Golder Associates
Mt Laurel, New Jersey

PROJECT No.		073-6009
DESIGN	RSA	11/26/14
CADD	RG	11/26/14
CHECK	RSA	11/26/14
REVIEW	JBG	11/26/14

FILE No.			0736009AS13
SCALE	AS SHOWN	REV.	0

FIGURE 9

Drawing file: 0736009AS13.dwg Nov 26, 2014 - 12:24pm

APPENDIX A

PHOTOGRAPHS OF IA-1F SOIL STOCKPILES

Appendix A – Photographs of IA-1F Soil Stockpiles

PHOTO A-1

IA-1F Blended Stockpile

PHOTO A-2

IA-1F Non-Blended Stockpile

APPENDIX B

RISK ASSESSMENT - SUPPORTING CALCULATIONS/INFORMATION

Table B-1. Older Child Body Weight Calculation

Age	Body Weight (kg)
10-11	31.8
11-12	56.8
12-13	56.8
13-14	56.8
14-15	56.8
15-16	56.8
Average Body Weight, Ages 10-16	**52.6**

Notes:
All values taken from the USEPA Exposure Factors Handbook (USEPA, 2011, Rable 5-1)

Table B-2. Calculated Skin Surface Areas and Dermal Adherence Factors for the Older Child Trespasser

Mean Surface Area by Body Part (m^2)[a]								Total Surface Area - Older Child Trespasser (cm^2)[e]	Age-Adjusted Adherence Factor (mg/cm^2)[f]				
Ages	Head	Face[d]	Arms	Forearms[b]	Hands	Legs	Lower Legs[c]		Forearms	Face	Hands	Lower Legs	Age-adjusted Total Adherence Factor for Soil[g]
10-11	0.066	0.022	0.151	0.068	0.051	0.31	0.12	2,654	0.046	0.054	0.17	0.051	0.073
11-12	0.073	0.024	0.227	0.102	0.072	0.48	0.19	3,917	0.046	0.054	0.17	0.051	0.072
12-13	0.073	0.024	0.227	0.102	0.072	0.48	0.19	3,917	0.046	0.054	0.17	0.051	0.072
13-14	0.073	0.024	0.227	0.102	0.072	0.48	0.19	3,917	0.046	0.054	0.17	0.051	0.072
14-15	0.073	0.024	0.227	0.102	0.072	0.48	0.19	3,917	0.046	0.054	0.17	0.051	0.072
15-16	0.073	0.024	0.227	0.102	0.072	0.48	0.19	3,917	0.046	0.054	0.17	0.051	0.072
Average (Ages 10-16)	0.072	0.024	0.214	0.096	0.069	0.45	0.18	**3,706**	0.046	0.054	0.17	0.051	**0.072**

Notes:

a. Taken From USEPA Exposure Factors Handbook (2011) Table 7-2.

b. Assumed forearm-to-arm ratio (0.45) as described in RAGS E, Exhibit C-1

c. Assumed Lower Leg ratio (0.4) as described in RAGS E, Exhibit C-1

d. Face is assumed to be 1/3 of the total head. This is consistent with USEPA RAGS Part E

e. Total surface area for forearms, hands, lower legs, and face

f. Values taken from Table 7-3 of the 2011 Exposure Factors Handbook. Values for "Activities with Soil"

g. Age-adjusted factor by multiplying the surface area times the body part specific adherence factor for each age group and then taking the average

Table B-3. Particulate Emission Factor

Parameter	Symbol	Value	Unit	Equation	Source
Dispersion Constant	A	14	unitless	--	USEPA 2002, Exhibit D-2, Value for Philadelphia, PA
Areal Extent of the Site	A_s	0.50	acres	--	USEPA 2002
Dispersion Constant	B	20	unitless	--	USEPA 2002, Exhibit D-2, Value for Philadelphia, PA
Dispersion Constant	C	225	unitless	--	USEPA 2002, Exhibit D-2, Value for Philadelphia, PA
Function Dependent on U_m/U_t	F(x)	0.19	unitless	--	USEPA 2002
Particulate Emission Factor, Wind	PEF_w	6.3E+08	m^3/kg	$PEF_w = Q/C_{wind} \times [3600/(0.036 \times (1-V) \times (U_m/U_t)^3 \times F(x))]$	USEPA 2002
Inverse Mean of the Mean Concentration at the Center of the Source	Q/C_{wind}	87	g/m^2-s per kg/m^3	$Q/C_{wind} = A \times \exp[(\ln A_s - B)^2/C]$	USEPA 2002
Mean Annual Wind Speed	U_m	4.7	m/s	--	USEPA 2002
Equivalent Threshold Value of Wind Speed at 7 m	U_t	11	m/s	--	USEPA 2002
Fraction of Vegetative Cover	V	0.0	unitless	--	Site-Specific - Assumes there is no vegetative cover at the Site

References

USEPA 1991. Human health evaluation manual, supplemental guidance: "Standard default exposure factors". OSWER Directive 9285.6-03

USEPA 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. December 2002.

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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